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SOCIAL SURVEY DIVISION

Teenagers and Alcohol

A developmental study in Glasgow

by John Davies and
Barrie Stacey

Volume II

*An inquiry carried out on behalf
of the Health Education Unit of
the Scottish Home and Health
Department*

LONDON

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Barrie Stacey

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*An inquiry conducted under contract to the
Social Survey by the Department of Psychology,
University of Strathclyde for the Health
Education Unit of the Scottish Home and Health
Department*

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ACKNOWLEDGEMENTS

The authors would like to thank the Director of Education for Glasgow, where the main study took place, and the Director of Education for Renfrewshire, where the pilot study was carried out, for their permission to approach schools and colleges in these areas in connection with the project. Sincere thanks are also due to all the head teachers and principals who allowed the survey to take place in their schools and colleges; and to all the young people who filled in the questionnaires.

The invaluable help of the Social Survey Division of the Office of Population Censuses and Surveys, in designing the sample, and in providing field workers for the administration of the questionnaires, is gratefully acknowledged.

Thanks are due to Mary Boyle, who assisted both in the analysis of the data, and at all stages in the preparation of the report. Also Eleanor Duthie who typed the manuscripts.

Finally, the authors gratefully acknowledge the advice, assistance, and encouragement which has been offered by many people, whose names do not appear above, throughout the duration of the research.

J.D.

B.S.

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SUMMARY

Introduction and Method (*Chapter I*)

Introduction

1. This study of adolescent alcohol use was initiated by the Scottish Health Education Unit. It involved the administration of a battery of questionnaires to a sample of 1321 boys and girls, aged 14 to 17 years inclusive, attending schools and colleges of further education in Glasgow. The aim is to provide information which will be of use to the Scottish Health Education Unit in organising health education with reference to alcohol.

2. Recent statistics from a variety of sources suggest that since the mid-1950's, an increasing number of people have experienced problems with alcohol. A rise is apparent in the incidence of deaths due to cirrhosis of the liver, 'alcoholic psychoses', convictions involving violation of the intoxicating liquor laws, and in the number of people in need of hospital treatment due to alcoholism. A recent report suggests that there are as many as 200,000 alcoholics at present in need of hospital treatment. In addition, it appears that an increasing number of young people (aged 30 years or less) are experiencing difficulties with alcohol, and that in many cases the prognosis for young people is particularly poor. There is also convincing evidence that the incidence of alcoholism and alcohol-related problems is higher, perhaps substantially higher, in Scotland than in England and Wales. For these two reasons (namely, the increase in the number of young alcoholics, and the higher rates of alcoholism in Scotland) a study of young people in Glasgow is highly pertinent.

3. Currently, a great deal of attention is given to problems of addiction, and in particular the misuse of drugs, on radio and television. Alcohol abuse, like cigarette smoking, does not have the notoriety of drug problems and so tends to receive less frequent and less sensational treatment. The number of people in this country with drug problems, however, is small when compared with casualties from alcohol. Cigarette smoking, with its attendant dangers, is also more widespread than drug-taking. The present survey, therefore, is mainly concerned with alcohol consumption by young people, but a certain amount of data is also presented on cigarette smoking to discover if there are any similarities between the use of alcohol and tobacco. In the present study, both straightforward frequency counts and more complex analyses of the data are presented, in an effort to provide description of adolescent drinking at various levels. An attempt is also made to outline some of the characteristics of young people who drink to varying degrees, and of young people who abstain; and to make suggestions about what factors might be important in the motivation of adolescent drinking.

Method

4. A field study/survey method was adopted for obtaining the data. In the first instance, a series of group discussions was held, involving different groups of young people and covering a wide variety of topics in addition to drinking

and attitudes to alcohol. These discussions were tape-recorded and subsequently analysed independently by two research workers. On the basis of these independent reports and a review of the literature, a pilot questionnaire battery was produced for use in the pilot study. This was administered to a heterogeneous sample of boys and girls from schools and colleges in the counties of Ayrshire and Renfrewshire. The purpose of the pilot study was to evaluate the suitability and effectiveness of the items contained in the questionnaires. After analysis of the pilot data, many items were either modified, if they proved unsuitable in their initial form, or discarded, if they failed to produce worthwhile results.

5. On the basis of results from the pilot study, a battery of questionnaires was derived for use in the main Glasgow survey. This final version contained sections on demographic, behavioural, and attitude/opinion variables. A team of field workers was specially trained for the task of administering the questionnaires in schools and colleges. After the main survey, which yielded a return of 1321 successfully completed schedules, data analysis took place. This falls into three parts. In Part 1 the data analyses are mainly descriptive, and deal chiefly with demographic behavioural variables. Part 2 comprises certain data analyses of a more analytic nature. In Part 3 an attempt is made to bring together both descriptive and analytic data, to give a more complete picture of adolescent drinkers and drinking.

Results (*Part 1 Chapter 2*)

The nature of adolescent drinking

6. The descriptive data in Part 1 show that for each year between 14 and 17 inclusive the great majority of boys and girls have had at least some experience with beverage alcohol. By age 14, about 92 per cent of boys, and 85 per cent of girls, report that they 'have tasted' alcohol. By age 17, these figures increase to about 98 per cent for the boys and 96 per cent for the girls. Taken in isolation, these figures are not very informative, containing as they do a complete range of drinkers, from those who just have an occasional taste at Christmas or New Year, through to young people with regular or even excessive drinking habits. Further analysis casts more light on this subject, however. At each age between 14 and 17 years inclusive, there are more boys who drink than girls, but the proportion of drinkers increases with age for both sexes. A majority of boys and girls report that their parents were the people who first introduced them to alcohol, a finding which is consistent with the high frequency of drinking occasions reported as taking place in the home, particularly among the younger boys and girls. It is apparent, however, that with increasing age progressively more alcohol is consumed in places outside the parental home (for example, in streets, parks, or public houses) and in situations remote from the regulating adult influence which often characterises the earlier years.

7. A substantial minority of young people, however, are not introduced to alcohol by their parents, but learn the use of alcohol from, or together with, other teenagers. Such early drinking ventures tend to be surrounded by secrecy and subterfuge, and evidence from later sections suggests that the heaviest drinkers may come from this group. In the present study, the modal age at which youngsters report first tasting alcohol is between 13 and 14 years. There are reasons, however, for supposing that this may be an over-estimate and that, in

fact, most of them will have tasted alcohol before this age. The parallel study of Jahoda and Cramond (1972) provides evidence for this supposition.

8. With increasing age, alcohol is more often consumed on occasions which are reported to be 'not special'. (In this context, 'not special' refers to occasions other than Christmas, New Year, birthdays, weddings, or other similar 'special' occasions.) Also, the quantities consumed in a variety of different situations increase with age, though boys consistently drink more than girls. A closer investigation of this area is made by examining in detail the drinking behaviour of boys and girls in three types of situation. These situations are:

- (1) in the home of parents, or adult relatives;
- (2) in the home of a friend of the same age;
- (3) in a place other than someone's home (this latter category being further subdivided into drinking 'in the open air', 'in a hotel or public house', 'at a dance', and 'somewhere else').

Overall, there are more young people who report drinking in the parental home, or home of adult relatives, than in the home of a friend of their own age; and fewer still who report drinking 'outside the home'. However, with age the quantities consumed *increase* progressively over these three situations, and these increases are accompanied by changes in the beverages most frequently consumed.

9. Drinking *in the parental home* appears to be largely confined to 'special occasions' for the younger teenagers, but with increasing age more drinking takes place on occasions reported as 'not special'. The preferred beverages for the boys are beer and lager, followed by shandy, cider, and occasionally whisky. Girls prefer shandy/cider, beer/lager and sherry/port. This situation appears to be very much under the control or guidance of adults. When young people drink *in the home of one of their friends* they tend to consume more than in their own homes. Also, the number of occasions reported as 'not special' is greater. In contrast to the 'parental home' pattern, drink is more usually obtained from companions of about the same age, rather than from adults. For boys, the most frequently consumed beverages are again beer/lager, shandy/cider and whisky. The girls still like shandy/cider, and beer/lager, but seem to develop a preference for spirits (possibly gin or vodka) rather than sherry and port. When young people drink *in situations other than someone's home*, they tend to drink *rather* more than in either of the two previous situations; and the number of occasions rated as 'special' is even smaller. It appears that for the males there is a transition from drinking in the streets and parks at about age 14 years, to drinking in the public house by age 17. With increasing age, male drinking becomes increasingly centred on the public house. At age 17, the girls show a division between drinking in public houses and dance halls, though open air drinking declines for them too with increasing age. (It may be noted that a great many dances take place in halls which are not licensed. However, group and individual discussions reveal that amongst girls, and to a lesser extent amongst boys, the practice of taking drinks into a dance from outside, and later consuming these in the toilets, is fairly widespread.) The finding that open air drinking *declines* with increasing age is important, since there may be an implication here that the legal age limit of 18 years for drinking in public houses really 'bites' at about the age of 13 or 14, and may have the effect of forcing these young teenagers into drinking situations which are secretive and clandestine, and where the development of attitudes

towards drinking which carry a symbolic freight is made more likely. The drinks most frequently consumed are beer/lager, shandy/cider, and whisky for the boys; and for the girls, beer/lager, shandy/cider, and 'other spirits'.

10. Part I concludes with a brief analysis of adolescent smoking, mainly with a view to examining any possible areas of similarity between the ways in which young people use cigarettes and alcohol. Evidence on this point emerges in later results sections, and suggests that there is indeed a great deal of common ground between the two. In the present study, the data show that by age 14 between 75 and 80% of all boys and girls report having smoked a cigarette, and there seems to be little change in these percentages between 14 and 17 years. This implies that young people are introduced to, and experiment with, cigarettes before the age of 14 years. A variety of questions on the topic of the health dangers of smoking (including such questions as, 'Do you believe there is a connection between smoking and illness?' and 'Do you believe that you yourself could get lung cancer from smoking?') failed on the whole to discriminate between smokers and non-smokers, suggesting that belief in the connection between cigarettes and illness, or belief that one is susceptible to such illness, is in itself not a sufficient condition to ensure the abandoning of the smoking habit. However, the question, 'Does the danger of lung cancer put you off smoking?' did discriminate between smokers and non-smokers; and, perhaps more important, discriminated between young people who smoked to differing extents. Those who smoked most heavily answered 'No' most frequently to this question, and those who smoked least answered 'Yes' most frequently. A possible implication here is that the more a young person smokes, the less does fear of cancer act as a deterrent (or vice versa), so that the heavy smoking group is likely to be most resistant to any health education which seeks to establish a bond between smoking and illness. It is probable that amongst heavy smokers the value of smoking as an indicant of 'toughness' or 'maturity' has more power to motivate behaviour than the negative values (dangers) stressed by health education, which renders the latter less effective. The importance of 'toughness' and 'maturity' in the motivation of smoking has also been suggested by John Bynner in *The Young Smoker* (H.M.S.O., 1969). Finally, when the number of cigarettes smoked per week is plotted against the amount of alcohol consumed (as measured by a five point drinking index), a marked relationship between the consumption of cigarettes and alcohol is readily observable. In other words, the heavy drinker tends also to be the heavy smoker; and the light drinker tends to be the light smoker.

Results (Part 2 Chapter 3)

Correlates of adolescent drinking behaviour

11. As young people grow older the amount of money which they have available, either to spend or to save, tends to increase. It appears that the greater the potential spending power, the greater are the amounts of alcohol consumed. As has been shown earlier, however, alcohol consumption also increases with age. This means, therefore, that an association between the amount of money available to a young person, and the quantity of alcohol he or she consumes, could arise simply due to the fact that both increase as a function of age, and the relationship might therefore be described as spurious. To explore this problem, an analysis of variance was performed which showed that both age and quantity

of alcohol consumed are *independently* related to spending power. This means simply that young people drink more as they get older, or as they receive more money, so the relationship discussed above is not spurious. It also appears that those young people with the greatest amounts of money available have parents with jobs of low rather than high occupational status. This is probably explained by the fact that these young people are less likely to stay on after the minimum school leaving age, and thus more likely to have a full-time job. They are also more likely to have part-time jobs while they are still at school. Because of the association between occupational status of parents and the amount of money available to offspring, there is a *small* positive association between relatively heavy drinking amongst youth and low occupational status of parents. (Parents' occupational status was assessed by means of the *Registrar General's Classification of Occupations*.)

12. An examination is made of the relationships between the amounts of alcohol consumed by young people and their involvement or participation in a variety of pastimes, hobbies and activities. On the whole, these relationships are found to be slight. Overall, there is a tendency for activities which correlate with drinking to correlate with smoking also. In addition, certain activities which might be loosely termed 'group' activities, such as going to dances or to parties, tend to be associated with heavier drinking. On the other hand, there is a tendency for certain types of individual pursuits (such as reading, collecting classical or jazz, as opposed to 'pop', records) to have slight negative associations with amount of alcohol consumed. These findings should be interpreted with caution however, as many of these activities are probably confounded with educational experience, or with other variables. (It would be naive, for example, to suppose that we could reduce excessive drinking by persuading people to collect classical records.) Also, playing a sport for a school or club team, and attendance at youth clubs, both have low levels of association with heavy drinking.

13. A limited examination is made of religious affiliation and drinking behaviour, dealing with young Protestant and young Roman Catholic respondents. These two denominations were, not surprisingly, by far the most common in the present sample. Unfortunately, the number of young people belonging to other denominations was so small that no meaningful comparisons could be made. The analysis is therefore confined to the differences between members of the Roman Catholic and Protestant churches. It should be stated at the outset that the information gathered on religious affiliation is not completely satisfactory, for several reasons. For example, it did not prove possible to discriminate between different degrees of religious involvement, nor to discriminate between 'active' and 'nominal' members of the different churches. An attempt to control for these things was made by taking into account frequency of church attendance, but this, too, was not completely satisfactory. The findings, however, whilst indicating specific differences for certain age/sex groups, fail to demonstrate any overall differences between young Protestants and young Roman Catholics in terms of drinking behaviour or associated values. There is thus no evidence that extent of drinking is associated with religious affiliation.

14. Part 2 also deals with the ways in which young people perceive themselves and their fellows. The purpose of this part of the analysis was to try to discover some of the possible sources of motivation of adolescent drinking. This was done by asking questions about 'the actual self', 'the ideal self', 'the teenager who drinks heavily' and 'the teenager who does not drink', thus attempting to find

out about certain of the aims and aspirations of young people, and about the ways they categorise other young people on the basis of drinking behaviour. By comparing the 'actual self' with the 'ideal self' it proved possible to pinpoint some of the 'character' areas in which certain young people feel deficient, and also to discover whether their aspirations are likely to lead them towards the heavy use of alcohol, by examining their perception of 'teenagers who drink heavily' and 'teenagers who do not drink'. More detail is added to this picture by taking into account how much each individual *in fact* drinks, and noting any differences in the interpersonal perceptions between categories of drinker. (Throughout the analysis, individuals are assigned a drinking index 'score' ranging from 1 (nil consumption) to 5 (high consumption), indicating a degree of alcohol consumption between complete abstinence and heavy drinking.) The analysis suggests that 'toughness' and 'sociability' are important factors in teenagers' perception of drinking behaviour. (In the text, these factors are referred to as 'tough/rebellious' and 'attractive/sociable' respectively.) Heavy drinkers, for example, are seen by virtually all teenagers as being tough but unsociable; on the other hand the non-drinker is seen as being weak (i.e. lacking in 'toughness') and not particularly sociable. It appears that many young people are motivated to drink both in order to avoid the 'weak/unsociable' stigma associated with non-drinking, and to achieve the 'toughness' which they associate with the consumption of alcohol. It could be argued that the strong 'unsociable' label attached to heavy drinking would operate as a deterrent to excessive alcohol use, and in some cases this may be so. It is clear, however, that young people fail to see themselves in terms of their own stereotyped perception of the heavy drinker, even when they themselves are *in fact* heavy drinkers. Therefore, the negative attributes of this stereotype (lack of sociability) do not impinge upon his or her own personal drinking behaviour. By drinking, young people avoid being thought of by their companions as weak, and since they do not see themselves as belonging to the category 'heavy drinker', they may feel that sociability is gained rather than sacrificed.

15. Compared with the 'ideal self', the heavy drinking teenager seems to be *too* tough, and insufficiently sociable. The non-drinking teenager, on the other hand, *fails to score highly enough* on both the toughness and sociability factors. Since the majority of young people drink, it follows that although both the heavy-drinking and the non-drinking teenager are inadequate models, the heavy drinking teenager is probably the more attractive of the two. It seems reasonable to conclude that for most teenagers drinking behaviour is, initially, an attempt to satisfy certain personality aspirations in terms of toughness and sociability, and to avoid the stigmatising implications of the categories which they themselves apply to others. The effects of peer group pressure, and the parallel need for peer group standing or esteem, appear to be very strong influences upon adolescent drinking.

Results (Part 3 Chapter 4)

Influences on drinking behaviour

16. This part attempts to bring together certain of the findings from Parts 1 and 2, i.e. both descriptive and correlational data, into some sort of general structure. The aim is to provide description of different categories of teenage

drinker (as defined by the five point drinking index mentioned earlier) in terms of a wide variety of variables, including demographic, behavioural, and attitude/opinion variables. Two complementary analyses are provided (multiple correlation and hierarchical interactive tree structure). The results of the multiple correlation suggest that certain beliefs are related to drinking behaviour for both boys and girls. In particular, the belief that alcohol confers 'maturity' upon the drinker, and the possession of other more or less critical or perhaps even cynical attitudes towards certain classes of people and property, seem to be associated with heavier drinking. In addition, the frequency of drinking, the number of cigarettes smoked, the number of friends who drink, and the age of the first taste of alcohol, emerged as important variables with regard to extent of alcohol consumption, for both sexes. It appears that heavier drinking teenagers smoke more cigarettes, tend to start drinking at a later age and have more friends who drink, than do teenagers who drink less. Further evidence also suggests that the heavy drinkers and the abstainers are similar in having parents who tend to disapprove of teenage drinking. It seems possible, therefore, that the heavy drinker is more likely to learn the use of alcohol for himself, possibly in secret surroundings, and is less likely to be introduced to alcohol in a social context in the parental home. The multiple correlation also shows that the occupational status of parents is an important predictor of alcohol consumption for the males, but not for the females. On the other hand, age emerges as an important predictor for the females, but not for the males.

17. The chapter concludes with an H.I.T.S.* analysis, which attempts to give a brief 'portrait' of different categories of drinker in terms of a number of important variables. Comparison of the five categories of adolescent drinker, which range from the teenager who does not drink through to the teenager who drinks heavily, shows changes in a variety of attitudinal, behavioural and demographic characteristics as one proceeds from the non-drinking to the heavier drinking categories. For both boys and girls, a pool of 20 variables is derived, each one of which makes a particular contribution to the overall description of drinking behaviour. As in the multiple correlation analysis, the number of drinking friends, and the number of cigarettes smoked, are associated, with the heaviest drinkers also being the heaviest smokers and having the greatest number of drinking friends. Amount of pocket money, and attendance at dances and parties, also increase amongst the heavier drinkers. Church attendance, however, seems to be a characteristic of the lower drinking categories, especially for the boys. It should be noted that whilst frequent church attendance emerges as a characteristic of abstainers, it is clear that the *reverse is not true*, i.e. abstinence is *not* a characteristic of people who attend church regularly. In addition, there are clear changes in a variety of attitudes as one proceeds from the light to the heavy drinking categories. For example, heavier drinking seems to be associated with increasingly hostile attitudes towards the older generation, and authority figures such as school teachers. This is coupled with a belief that drinking is a sign of maturity, and that it shows that one 'knows how to look after oneself'. Of particular interest in the heaviest drinking group (drinking category 5) is the finding that, for both boys and girls, this group is characterised by high scores on a factor called 'trouble/precocity'. This factor is a possible indicator of delinquent behaviour, and suggests that heavy drinking may be associated with anti-social acts. It does *not* show, however, that heavy drinking *causes* delinquent

*Hierarchical Interactive Tree Structure.

behaviour. On the other hand, abstainers appear to have extremely restrictive, often punitive attitudes and opinions, both on the issue of adolescent drinking and on a range of other topics, and frequently do not appear to participate in many of the activities common among other young people. The finding that abstainers and heavy drinkers have certain things in common, particularly with respect to parents' disapproval of teenage drinking and subsequent repercussions for the ways they come to perceive, and learn about, alcohol use, suggests that the abstainer is an unstable model for the teenage alcohol user.

Adolescent Drinking and Health Education (Chapter 5)

Discussion

18. The data show that most young people have tasted alcohol before their eighteenth birthday, and that many of them have obtained alcohol illegally in a public house. Evidence from this study, and from elsewhere, suggests that legal sanctions influence the places where young people consume alcohol, rather than whether or not they consume it. For example, teenagers aged about 14 years appear to drink more often in parks and streets than do older teenagers, presumably because they (the 14 year olds) cannot purchase drinks in a public house.

19. Outside the parental home, drinking appears to be largely under the control of teenagers themselves. There is some evidence to suggest that those teenagers who experience restrictive or disapproving types of control from their parents drink more heavily than those whose parents are not of this type; and it is suggested that some young people may use alcohol as a means of expressing rejection of certain adult norms and values.

20. Examination of various aspects of interpersonal perception (specifically, the ways in which young people describe how they view 'the teenager who drinks heavily', 'the teenager who does not drink', 'the kind of person I actually am', and 'the kind of person I would like to be'), shows that stereotyped perceptions exist of the 'heavy drinking' and 'non-drinking' teenager. It appears that by drinking, certain ideals in terms of 'toughness' or 'sociability' can be achieved, or at least brought nearer. Since these attributes are highly prized, there is pressure on individuals to drink, in order to acquire or maintain status in the eyes of the peer group.

21. By introducing their children to the controlled use of alcohol in social settings as a normal and acceptable mode of behaviour rather than merely waiting until they learn the use of alcohol themselves, perhaps in a disadvantageous setting, parents might reduce the chance that their children will use alcohol as a means of expressing rejection of parental authority, or of other norms and values.

Implications for health education

The suggestions made in this section are tentative, and health educators may well reach different conclusions of their own on the basis of the data presented.

22. Since many adolescent drinkers express attitudes towards teachers and authority figures which are unfavourable, it would appear that teachers are not ideally suited to the role of health educator. Whether it is possible to train special

counsellors, or whether practical considerations dictate that teachers should perform the task, the importance of seeking ways in which the educator or counsellor can reduce the degree to which he acts, and is perceived as, a 'teacher' or 'authority figure' is stressed.

23. Whilst an informational approach can be beneficial in providing young people with knowledge about the possible benefits and dangers of alcohol use, the results from the present study suggest that group pressures have a major part to play in the motivation of adolescent drinking. An approach which is purely informational, and which does not attempt to deal with group dynamics, probably neglects a very important area.

24. Finally, examination of the ways in which young people perceive their parents suggests that parental behaviour and attitudes exert some influence over teenage drinking. In particular, disapproving or prohibiting attitudes on the part of parents towards adolescent drinking seem frequently to be associated with heavy drinking amongst offspring. It is argued that such parental attitudes increase the likelihood that adolescent offspring will use alcohol to demonstrate rejection of parental authority, or adult norms and values in general.

Recommendations

The recommendations are made on the basis of findings from the present study, and represent aspects which, in the opinion of the authors, might be of interest to individuals or agencies concerned. Other people, however, might arrive at different or alternative conclusions. The recommendations are made under three headings, concerning parents, educators, and other possibilities for action.

Parents

25. If parents expressly forbid their children to drink in the home, it appears that they might thereby increase the chances that their children will drink somewhere else, perhaps in situations less favourable to the development of moderate drinking habits. *It seems advisable, therefore, for parents to provide a home environment in which their children can learn the controlled use of alcohol, should these young people wish to do so.*

26. The ways in which parents conduct themselves with respect to alcohol will influence the ways in which their children respond to alcohol. Clearly, parents whose own drinking is excessive do not provide a good model for adolescent drinkers. On the other hand, the standpoint that teenage drinking is 'wrong' or 'wicked', or that alcohol itself is 'evil', may increase the likelihood that young people will use alcohol if, or when, they need to symbolise rejection of parental authority. *From a parental point of view, an uncompromisingly prohibitive attitude with respect to teenage drinking is therefore probably best avoided.*

27. The study shows that the heavy drinking teenager tends to have more money than his more moderate drinking fellows. *Parents might therefore monitor more carefully the amounts of money which their offspring receive each week, from whatever source. Attempts to discourage possibly excessive spending on cigarettes or alcohol might also be helpful.* It should be remembered, however, that regulation of spending is an attempt to influence effect rather than cause, since it does not directly influence the initial motivation to drink.

28. By stressing the fact that teenagers are 'still children', or that they are 'too young' to do certain things, adults may provoke the reaction on their part that adults are 'too old' and that they represent a system of values to be rejected in turn. *In trying to ease the transition from adolescent to adult status, parents might try to explain any restrictions in terms of meaningful consequences, rather than by placing unnecessary emphasis on the teenagers' lack of years.*

29. The findings suggest that where parents forbid certain behaviours, including drinking, they in fact prepare a series of behavioural 'targets' for the young person if, or when, he/she wants to reject adult or parental authority. *If parents treat moderate alcohol consumption in the home, by teenagers, as acceptable rather than as something 'special' or 'forbidden', the chances of their children drinking in order to express rebellion against parental authority are reduced.*

Educators

30. The findings show that the more heavily a teenager drinks the more unfavourable are his attitudes towards authority in general, and schoolteachers in particular. *For the task of health education, therefore, the use of either teachers who have especially friendly and informal relationships with young people, or special counsellors who are less readily placed in the category 'teacher', may offer some advantages.*

31. There is much evidence to suggest that the formal 'lecture' to a large audience is of very limited value. Also, with large groups much of the individual face to face interchange is lost, and the group becomes more impersonal. *It is suggested that from the point of view of health education, the small group of perhaps not more than ten individuals provides a more advantageous setting than the large group.*

32. The study shows that the heavy drinkers tend also to be heavy smokers; and that they hold attitudes and beliefs which distinguish them from less heavy drinkers and smokers. In addition, drinking and smoking behaviour are associated not only with attitudes and beliefs concerning alcohol and tobacco, but with attitudes and beliefs on a wide variety of subjects. It follows, therefore, that *health education can in some ways tackle both drinking and smoking simultaneously; but that areas other than those involving alcohol and tobacco also need to be covered.* For example, *if young people drink and smoke because they feel a need for toughness, or a need to rebel against certain adult norms, then these topics must be discussed too.*

33. Simple reiteration of well-worn health messages (for example, that smoking causes cancer, or that drinking can lead to alcoholism) may be positively harmful, by further alienating young people, or at least boring them. Information therefore needs to be 'real' in the sense of being informative, and needs to deal with the socially beneficial effects of controlled alcohol use as well as the dangers of abuse. *Persistent emphasis on only the negative aspects of alcohol use should be avoided.*

34. Many young people appear to drink out of a desire to avoid being thought weak or unsociable by their peers. The non-drinking teenager is thought of as being weak and not very sociable. *The health educator might attempt to redress this imbalance by endeavouring to convey a new, more attractive characterisation of the non-drinker.*

Other possibilities for action

35. By stressing the toughness and sociability (especially sexual attractiveness) associations of drinking, advertisers also tend to strengthen by implication the notion that *not drinking* indicates weakness, unattractiveness and lack of maturity. *It would be beneficial, therefore, if steps could be taken to bring advertisers to consider more carefully the danger of this type of message, given present circumstances. In addition there is an anomaly in the legislation which restricts sales of alcohol to young people, but does not restrict the promotion of sales to this group.*

36. 'Toughness' is associated with drinking in the minds of many young people. Certain types of public house probably help to strengthen this association. *Attempts to provide more varied facilities, catering more for women or mixed parties, and to create less dour drinking surroundings might help to provide a more pleasant and sociable setting for drinking.*

37. Open-air, clandestine drinking is most widespread amongst the 14 year olds in the present sample. It has been argued that legislation serves to keep many 14 year olds out of the public house, but fails to stop them drinking—thereby forcing them into *secret* drinking. *Since young people can drink in the home under adult supervision, it might be worthwhile considering whether they should be permitted to drink under adult supervision in the public house.*

38. Certain of the findings from the present study suggest that there are areas which involve teenagers, teachers and parents alike. Opportunities for the free interchange of ideas about the needs and aspirations of young people, involving these three groups, are normally few and far between. There might be advantages in holding parent/teacher/pupil meetings in the style of an open forum, to discuss specifically problems of teenage behaviour, and the problems of relationships between adults and teenagers. *Some way of permitting a more free interchange of ideas between these three groups of people is desirable.*

CHAPTER 1

Introduction

The present study is an examination of alcohol use in a sample of 1321 boys and girls aged from 14 to 17 years inclusive, attending schools and colleges in Glasgow. Information is presented not only on the nature of teenage drinking, but also on a variety of other factors which bear upon the subject. The method involved administration of a battery of questionnaires dealing with different aspects of teenage drinking in the sample of boys and girls, and subsequent statistical treatments of the data obtained. The data are presented in a variety of different ways, ranging from straightforward description of such things as quantities of alcohol consumed, drinking venues and demographic characteristics of drinkers and of abstainers, through to more complex analyses of attitudes and opinions, and interpersonal perceptions.

The principal aim of the study is to provide information about adolescent drinking and attitudes relating to alcohol which might be of use to the Scottish Health Education Unit, who initiated the project. It is hoped that this information will be of use to those concerned with organising health education programmes and health propaganda dealing with alcohol. The need for such alcohol education stems from a growing awareness of the problems which the excessive use of alcohol can bring, and from statistics which suggest that an increasing number of people have been experiencing problems with alcohol in recent years.

More specifically, statistics based on 'alcoholism' and 'alcoholic psychoses' show an increasing incidence since the mid-1950's. A similar trend emerges from statistics on deaths due to cirrhosis of the liver (Office of Health Economics, 1970). A report by the Medical Council on Alcoholism (1970) states that there are well over 200,000 alcoholics in need of hospitalisation in Great Britain. Glatt and Hills (1968) point out an increase in the number of drunkenness offences amongst the young in recent years, and suggest that the number of young people experiencing problems with alcohol is increasing and will continue to do so. Estimates of the number of alcoholics in England and Wales vary, but range from about 200,000 to 400,000. However, some evidence suggests that the incidence of alcoholism in Scotland is higher, perhaps substantially higher, than in England and Wales. Boyd (1969) reports that convictions involving violation of the intoxicating liquor laws in Scotland are almost double those for England and Wales and also reports that there are an estimated 90,000 alcoholics in Scotland. Of significance from the point of view of the present study is the finding by Ritson and Hassall (1970) of an incidence of 15 per cent of young alcoholics (aged under 30 years) in a sample of 100 Edinburgh alcohol addicts, and their suggestion that the prognosis for young alcoholics is particularly poor. Boyd (1969) also reports increases in alcohol-related offences amongst young people, aged between 14 and 20 years.

Although abuse of illicit drugs has recently received a great deal of attention both in the press and on radio and television, the number of people with drug-associated problems in the population as a whole is small when compared with the number encountering problems with alcohol. Alcohol, however, does not

have the notoriety of drugs, and is hence less newsworthy. There are studies, nonetheless, which suggest that drug abuse might become a problem of increasing magnitude in the future. Wiener's (1970) study of drug-taking amongst a sample of London schoolchildren shows the existence of a problem in non-alarmist terms; and Gossett, Lewis and Phillips' (1971) study of a large sample of Dallas schoolchildren revealed a substantial proportion of drug users and a wide range of substances in circulation. It may be that certain types of young person will increasingly turn to drugs rather than, or as well as, to alcohol.

Also of relevance in the present context is the widespread use of cigarettes amongst young people aged 17 years and below. Studies by McKennell and Bynner (1968) and Bynner (1969) have pin-pointed some of the factors underlying the use of cigarettes by schoolboys, and in particular show the importance of certain types of interpersonal perception as concomitants of smoking behaviour. In the present study smoking is also briefly examined in order to allow comparison with Bynner's findings and also to find out what associations, if any, exist between drinking and smoking amongst adolescents.

The prime concern of the present study, however, is teenage drinking behaviour. In addition to statistics which show that alcohol use may be increasing amongst young people, there is another reason for examining their drinking habits. Drinking and drunkenness amongst youth are often paired closely in the public imagination with various aspects of delinquent or anti-social behaviour. In particular, teenage violence and vandalism (including the much publicised 'gang warfare' which has taken place in and around Glasgow) is assumed by many people to be *caused* to a considerable extent by the misuse of alcohol. Studies by Mandell (1962), however, suggest that excessive use of alcohol is not a cause of delinquency, but rather a manifestation. Alexander (1967) on the basis of empirical studies, also describes 'defiant drinking' as a manifestation of 'adolescent rebellion' but not as a cause. These findings imply that although delinquent behaviour and problem drinking might be associated, the delinquency is not directly attributable to drinking. Removal of drink would, therefore, probably not significantly affect the incidence of the remaining troublesome behaviours.

Taking a rather broader view of the problems caused by alcohol abuse, Edwards (1971) points out that some 8000 alcoholics are taken into hospital each year and states that alcohol problems contribute substantially to vagrancy and chronic homelessness, prison overcrowding, difficulties of the probation service, suicide and broken marriage. Few people would argue that the misuse of alcohol does not present problems or that attempts to find solutions are not justified. However, it is rather more difficult to justify in detail the contribution that studies of the present type can make in suggesting possible approaches to public health or other problems, or what implications they might have for preventive social action. Studies can provide description at various levels, but recommendations are not inherent in any data obtained. Actions or proposals for action are based on the interpretation of empirical findings in the light of what is practicable or feasible, and the value or accuracy of any particular interpretation needs at some stage to be evaluated empirically. The suggestions made in the concluding chapter, and especially the tentative recommendations relating to health education, must therefore be viewed as one interpretation of the data contained in the main study. Health educators may reach different

conclusions. The main point is that this study serves as a description of an area of adolescent behaviour in which many young people will encounter problems in their later years; and such description is an essential forerunner to action on the health education front.

There are various ways in which description of social experiences and behaviour can be approached. A great deal of valuable and important work on drinking confines description to frequency counts of various kinds—for example, incidence figures for the different quantities of different beverages consumed by different age groups. This is probably description in its most straightforward form, since no attempt is made to go beyond a simple analysis of the data or to impose a coherent structure on them. The recent study of American drinking practices (Cahalan *et al.*, 1969) is of this type and contains a wealth of information about who drinks what, where, and how much. Of a somewhat different type are those studies which subject the data to more complex analysis, in attempts to provide more parsimonious accounts in terms of broader underlying variables, or suggestions about causal relationships. Investigations of this type include Bynner's (1969) survey of schoolboys' smoking and the study of alcohol, use amongst three different racial groups in an American community, by Jessor *et al.* (1968). Where sampling permits, there is a case to be made for attempting to maximise the use of the data by going beyond the frequency count stage, in an attempt to discover something about the relative importance of different variables, and about any pattern of inter-relationships which might connect them. By so doing it becomes possible to ask a wider range of questions of the data, thereby enlarging the scope for the formulation of hypotheses and subsequent hypothesis testing.

The present study includes both straightforward frequency counts and more complex analyses of the data. The frequency counts represent the raw materials from which answers to some of the basic questions can be formed, but owing to the lack of an overall structure such answers are not always as satisfactory nor as informative as they might be. The more complex analysis, on the other hand, often suggests hypotheses in a more obvious form, by indicating the inter-relationships between variables, or by forming variables into groups. In the context of the present study the formulation of hypotheses is important, since the overall aim is to answer questions about general ways in which alcohol education might be tackled and to suggest ideas about how best to organise the interface between educator and educated.

The purpose of the report is thus to provide description at various levels. In doing this, no particular *a priori* viewpoint, either 'wet' or 'dry' (*laissez faire* or prohibitionist), is advocated. As far as possible the approach has been neutral with respect to the presentation of results. It remains for the reader to accept the interpretations provided or to make whatever interpretations he or she wishes on the basis of the data presented. Any inferences or suggestions which occur in the text are in no way designed to reinforce, or advocate, any pre-existing legislative position. Where appropriate, however, reference will be made to the work of other researchers and specialists either to develop certain arguments or to point out areas of disagreement.

In the report, an attempt is also made to cast light on certain specific areas or issues of importance to the health educator. In the first place it is desirable to define the extent and nature of adolescent drinking. On this point, results show

that under-age drinking is extremely widespread. Studies from the U.S.A., Scandinavian countries, Australia, Poland and elsewhere attest to the fact that this phenomenon is not unique to Scotland. In the second place, it is of importance to examine the attitudes and beliefs of young people who drink, and to determine whether these attitudes and beliefs are of importance from the point of view of health education. For example, if it were found that young people have favourable attitudes towards certain groups of adults but unfavourable attitudes towards others, this would clearly have implications for the ways in which health education should be organised. An attempt is also made to suggest answers to such questions as, 'Why do young people drink?' and 'Why do some young people drink more than others?'. In seeking answers to these and other questions the aim of health education is not merely to combat excessive drinking by 14 to 17 year olds, but to encourage the development of modes of alcohol use that will enable young people to control their drinking throughout adult life.

Method

For many years, psychological research has been viewed by many as taking place at two quite distinct levels. At one level, truly 'scientific' research has often been regarded as the province of laboratory-experimental studies, wherein all extraneous or ambiguous variables are precisely controlled and the effects of a manipulation of *a* upon the states of *b* are observed, as far as possible free from any uncontrolled influence. On the other hand, the work of clinicians, field observers, cultural anthropologists and social psychologists has often been viewed as imprecise, subjective, ambiguous, generally 'unscientific', and therefore of more limited value. This dichotomy between laboratory study and field study probably stems from certain misconceptions.

Kaplan (1964) aptly writes, "There is no sharp distinction between observation and experimentation, only a series of gradations and intermediates." Some confusion perhaps arises from the concepts of manipulation and control. In the laboratory, variables can be manipulated. In the naturalistic setting, such manipulation is often not possible. However, manipulation and control are not synonymous, and the fact that we cannot manipulate does not mean that control is impossible. This is not the place for a full account of methods for controlling variables in field studies; however, the interested reader will find an excellent summary in Jessor (1968).

It should also be noted that the laboratory-experimental type of study has two disadvantages. Firstly, behaviour in the highly artificial setting of a laboratory is not necessarily an accurate portrayal of behaviour in a natural setting. Because of this difficulty, the aspects of behaviour studied in the laboratory are often highly molecular, such as sensory processes, reaction times, or some other highly abstracted piece of behaviour, from which no direct implications for molar behaviours in a natural setting may be apparent. Secondly, for reasons of ethics and of practicability, the experimental method is often unsuitable for the study of certain activities.

In the laboratory, the problems investigated tend to be those of the psychologist, not of his subjects or of people at large. The experimental psychologist is often concerned with a specific problem he himself has taken up, rather than with the present or future states-of-being of his subjects or the population they represent. He searches for 'hard' evidence to support his conclusions, designing

experiments to exclude the influences of as many extraneous variables as possible, restricting the freedom of his subjects so that their performance is directly relevant to his problem. To date, strict experimental psychology, both as pure and applied science, has been severely limited by the 'natural science' model of science so long accepted in academic circles, though this tradition is being subjected to mounting criticism (Joynson, 1972). In field studies the primary problems are often those of the subjects or of the community at large. The investigator here may have to use kinds of evidence the experimental psychologist would avoid. He has to accept many or all the variables that impinge on his problems as he encounters them, in circumstances where control is achieved with much more difficulty. He is much more likely to be concerned with creating further possibilities for his subjects and the population they represent, with extending their range of action. The differences between the commitments of strict experimenters and field investigators over several decades has meant the field study is, at present, more directly applicable to the problems and issues of our time. These considerations led to the choice of a field study/survey mode of research for an inquiry into the drinking behaviour, attitudes and inter-personal perceptions of a sample of young people aged from 14 to 17 years, in Glasgow.

Plan of the research

The temporal sequence of the various stages in the research is illustrated in Fig. 1, from 'review of the literature' to completion of the final report.

Review of the literature

The main points arising from the review have already been covered in the introduction. A more comprehensive review of the literature is available in an article by the present authors, *Drinking in childhood and adolescence: an evaluative review* (1970).

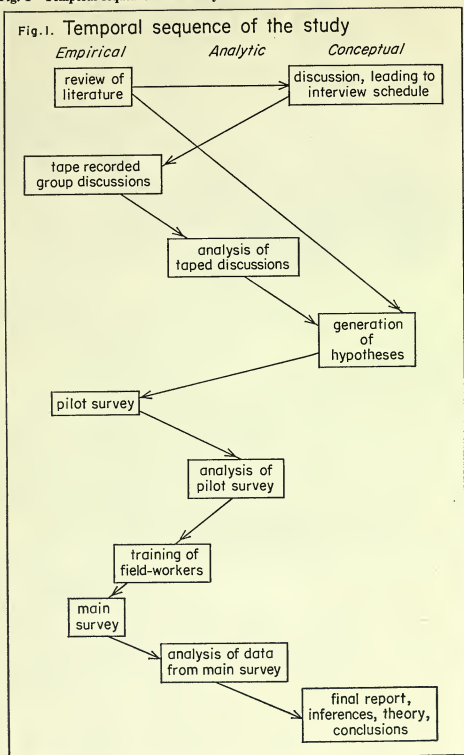
Group discussions

A series of 12 group discussions was held, involving small groups of young people of both sexes, aged from 11 to 18 years. The sessions were all conducted in Dunbartonshire. Groups were contacted by a variety of means, including help from youth group leaders, scout and guide leaders, and by assembling groups of delivery boys of various kinds. All the discussions were tape recorded to aid in the analysis of the content. Together with the literature review, the group discussions were used as a guide to demarcate the relevant areas for inquiry and in the formation of hypotheses on the basis of which the pilot questionnaire battery was constructed.

An interview schedule was drawn up for use in the group discussions. This covered nine main areas of interest. These were: (1) Recent activities of a general nature; (2) Hobbies and pastimes; (3) Parent and teacher attitudes towards the younger generation; (4) Commencement of drinking; (5) Sibling and peer group influences on drinking behaviour; (6) Use of alcohol; (7) Attitudes towards alcohol, and alcohol users; (8) Extent of exposure to, and influences of, health education and mass media; (9) Religious influences.

Each topic was written on a card which could be unobtrusively referred to by the interviewer during the session. The aim was to have a fairly free approach to

Fig. 1 Temporal sequence of the study



the sessions, and to let conversation follow its own course as far as possible. The interviewer directed the conversation in such a manner that all topics were covered, but not necessarily in any particular order. With the exception of session 12, where only one interviewer was present, all group discussions were conducted by two interviewers, one leading the discussion, and the other in an unobtrusive role operating the tape recorder, changing tapes and so on.

Before each discussion, the following procedure was followed: (1) subjects were informed that the discussions were anonymous, and invited to provide a title or nickname by which the interviewer could refer to him/her; (2) subjects were told that no one except people directly involved on the project would listen to the tapes, and that parents or teachers would not be given access in any circumstances; (3) an initial short recording session was run prior to the start of the interviews, so that subjects could become accustomed to the presence of the tape recorder, hear the sound of their own voices and generally overcome any initial embarrassment.

The interview schedule was constructed so that key topics such as drinking or smoking, or sensitive topics like sexual activity, were approached via more mundane topics (e.g. hobbies, pastimes, 'the kinds of things you like to do at the weekends', etc.) or incorporated into some less threatening context.

Twelve discussion sessions were held involving 47 subjects. In selecting groups for interview, the aim was to obtain the most diverse sample possible. Subjects included delivery boys, scouts and guides, secondary schoolchildren, young people in employment and a group of Borstal boys. Two research workers (one involved in the research project and one completely unconnected with it) compiled independent reports on the contents of the tapes. There was close agreement in the reports about what were the most important features, including the modal age for commencement of drinking and smoking, attitudes towards authority and the older generation (including parents), group pressures to experiment with tobacco and liquor, and the effects of drinking and smoking. A stereotyped impression of heavy drinkers and smokers as being 'tough' or 'hard men' and of non-drinkers and non-smokers as being 'cissies' or 'yellow' also emerged.

These two reports dealt with the tape recordings in considerable detail, and formed one of the bases for initial hypotheses and for the pilot questionnaire battery. A brief summary of the main findings is given below.

Group discussions: Main Findings.

Most of the young people interviewed reported that their first experience of alcohol came from parents or adult relatives and took place in the home. The earliest age at which the 'first taste of alcohol' was reported was six years, and the latest about thirteen years. By the age of twelve or thirteen years, the majority had experience of at least several types and frequently a wide range of alcoholic beverages. For some subjects, drinking appeared to be confined mainly to the home, and limited to special occasions like Christmas or New Year. In general, amongst older boys and girls there was more consumption outside the home either in public houses, at parties where adults were absent, or in streets or parks. Several subjects reported being drunk, or having been in the company of friends who were drunk. A stereotyped negative attitude towards drunkenness was evident.

It was apparent that many young people felt under some pressure to drink, in order to avoid criticism or ostracism by their peers; in this respect, the influence of the peer group seemed important. A certain ambivalence seemed to be present in so far as a stereotyped perception of regular drinkers and smokers emerged (usually they were described as 'the hard lads', 'the toughies' or 'the neds') even though the regular drinkers and smokers among the interviewees did not see themselves in these terms. For one or two male subjects, however, smoking and drinking were clearly activities about which to boast, and by means of which to display hypermasculine characteristics. Generally, heavy drinking and drunkenness seemed to be more acceptable in men than in women for these young people.

The discussions failed to reveal any definite patterns in terms of either social status or religious affiliation, with respect to drinking behaviour.

Pilot questionnaire battery

The literature review and the group discussions were used as a basis for the construction of the first version of the questionnaire battery. Several versions were produced before agreement was reached about a satisfactory layout and the various approaches to the more delicate topics. This 'first' version was then tested in a pre-pilot study to determine the areas of likely resistance to questioning, and to assess the average time taken for completion of the schedule. At this pre-pilot stage, no formal data analysis took place because (a) this was not the purpose of the pre-pilot study and (b) the small sample size (20 subjects) did not merit any detailed statistical examination. After minor adjustments, involving rewording of certain items and altering certain answer layouts, the first pilot version of the questionnaire battery was ready. This and subsequent versions were completely anonymous.

The questionnaire battery contained three categories of questions, which were designed to elicit three classes of information. These classes were, firstly, the commencement and maintenance of youthful drinking behaviour, and their relationship to selected demographic variables; secondly, the attitudes of young people towards drink and drinking, and towards a variety of other related activities; thirdly, the self-images of young people, and their stereotypes of other young people, notably heavy drinkers and abstainers. Within each of these topics, information was sought under a number of headings, as follows:—

Class one. Information about—

1. Age, sex, and other personal details.
2. Occupational status.
3. Parental influences.
4. Hobbies and pastimes.
5. Peer groups.
6. Religious affiliation.
7. Commencement of drinking and smoking.
8. Extent of drinking and smoking experience.

Class two. Attitudes towards—

1. Older generation.
2. Alcohol, and the use of alcohol by young people.
3. The importance of religion in the modern world.

4. Money and material possessions.
5. Elite groups and authority figures.

Class three. Images and stereotypes of—

1. The self.
2. The ideal self.
3. The heavy drinker.
4. The abstainer.

The pilot questionnaire battery was divided into six sections. Section one contained demographic questions; section two comprised questions on the 'self' and the 'ideal self'; section three consisted of drinking and smoking questions; section four examined a variety of more general attitudes; the final section comprised questions about 'teenagers who drink heavily' and 'teenagers who do not drink'. Space was provided near the end of the questionnaires in which respondents could write any comments they wished about the questionnaires and the things they had been asked.

Pilot sample

At the pilot stage, the sample was drawn from one college of further education, one high school, one independent high school, one Roman Catholic junior secondary school, two non-denominational junior secondary schools, and one approved school. These were selected from lists of schools and colleges in the counties of Ayrshire and Renfrewshire.

The aim was to select a sample of young people in the target age range for the main study, which would reflect the main relevant variables (occupational status, type of school, religious denomination, mixed or single sex school, etc.). The pilot sample was thus highly heterogeneous with all relevant variables included, but it was not a balanced (or *representative*) cross section of the youth of these counties. This was not detrimental at the pilot stage, since the aim was to assess the *suitability of the questionnaire battery* for all sections of the final sample (i.e. the questions must be capable of answer by the least academic members of a third year class in a junior secondary school, without appearing too tedious or facile for a group of sixth form students). Construction of the sample for the main study was, as will be seen later, rather more detailed.

The pilot questionnaire battery was administered to school and college classes by a team of three workers. The procedure was roughly similar to that described for the main study in Appendix 3, though there was a certain amount of experimentation with instructions and visual-aid materials. It became apparent that certain wordings of questions were regularly causing difficulty, particularly questions involving the terms 'aggressive' and 'in moderation'. In addition, certain answer layouts seemed to create difficulties so that some modification of the questionnaire battery was necessary. Finally, it became clear that the time estimate based on the pre-pilot tests was a considerable under-estimate for some subjects. (Initially, one hour and fifteen minutes had been the estimated time for distribution, completion and collection of the questionnaires. In fact, there were considerable individual differences in the time required for completion of the questionnaires, ranging from fifty minutes to one hour and fifty minutes.)

Analysis of the pilot questionnaire battery

The function of the pilot study was to provide a 'trial run' in which the performance of the questionnaire battery itself could be evaluated. Its purpose was therefore quite different from the main study in which the 'performance' of the subjects (that is, the way in which they answered the questions) was evaluated. This section of the study was concerned, therefore, not with the details of the subjects' answers, but with the adequacy of the questionnaire battery as an instrument with which to evaluate these answers. In practical terms this meant retaining for the main study those items which worked efficiently, and discarding or improving those which did not. Statistical and pragmatic considerations dictated whether or not a particular item was retained or discarded.

At the pilot stage, the analysis took two forms. Firstly, evaluation of the demographic and 'factual' sections (sections one and three in the questionnaire booklet) which was based mainly on frequency counts and measures of central tendency and dispersion. Secondly, the items dealing with self and interpersonal perceptions, and attitudes and opinions (sections two, four, five and six) were analysed by the principal components method. (Simply, principal components analysis seeks to 'explain' data on a large number of variables in terms of a smaller number of dimensions or components.)

A large number of the demographic items were block booked from the start (e.g. age, sex, occupational status, etc.) and similarly for a majority of the drinking questions. A few items were discarded because of unsatisfactory distribution statistics—i.e. when virtually only one category was endorsed, making the items of little value from the point of view of discrimination.

The greatest reduction in items took place in the self and interpersonal perception questionnaires, and on the attitude-opinion sections. The method used in deciding which items were to be discarded is described in McKennell (1970.) Briefly, a correlation matrix of each item pool was obtained, and then clustered by the method of McQuitty linkage. The McQuitty solution was then cross-checked in the loadings of a principal components analysis with rotation of all components with eigen values greater than unity to a Varimax solution. The alpha coefficient was then used to help determine the optimum size of each cluster or 'scale'.

After analysis of the data, the questionnaire was reduced from 470 items to 191. These 191 items were then reformed into a questionnaire battery for the main study. The layout of these questionnaires is now given below, with the numbers of items remaining in each section. Numbers in brackets show the number of items in the original pilot version. In order to add interest and variety to the physical appearance of the questionnaire, different sections of the questionnaire battery were printed on different colours of paper. It was hoped that this would also serve as an aid in the identification of specific types of question.

Questionnaire One (yellow)
Demographic data, 18 questions (18)

Questionnaire Two (a) (pink)
The self, 15 questions (35)

Questionnaire Two (b) (pink)

The ideal self, 15 questions (35)

Questionnaire Three (blue incorporating white 'abstainers' section)

Drinking and smoking data, 31 questions (34)

Questionnaire Four (buff)

Attitudes to alcohol, 20 questions (30)

Questionnaire Five (green)

General attitudes, 35 questions (80)

Questionnaire Six (a) (pink)

The teenager who drinks heavily, 15 questions (35)

Questionnaire Six (b) (pink)

The teenager who does not drink, 15 questions (35)

A facsimile of the main questionnaire battery is given in Appendix 7.

The problem of validity with questionnaire data

In its simplest form, the questionnaire method of obtaining information consists of asking people to answer a number of questions. The problem immediately arises, "How can we be sure that people tell us the truth?" This is particularly pertinent when an investigation takes place into matters about which we might reasonably expect people to be reticent or defensive, such as sexual behaviour, drugs, income, or, in this instance, drink. Superimposed on top of this subject-specific problem are the other sources of measurement error common to questionnaire studies, notably the effects of response bias and the influence of fatigue.

A variety of procedures can be adopted to maximise the validity and reliability of questionnaire answers to the point where we can have confidence in the information obtained. The best way of achieving this state of affairs is to institute controls at all stages of the study, that is, during the design of the questionnaire, throughout its administration in the classroom, and during the stages of data analysis. A brief outline follows of the steps taken to ensure validity and reliability of the data in the present survey.

Inaccurate reporting by subjects can be either the result of falsification (deliberate, or unwitting as with fatigue or distraction), lack of comprehension of certain items, or some form of response bias. It is possible to take steps to minimise response bias in the construction of the questionnaire itself, by avoiding the use of any highly emotive words; and by making sure that item check-lists do not always have the positive and negative attributes in the same order or position so that the development of a simple position preference is avoided.

Lack of comprehension can be dealt with satisfactorily at the pilot stage, by taking note of emerging difficulties, encouraging queries, and by making sure that all points of difficulty are clarified by suitable modifications before the main study takes place.

The only way in which deliberate falsification can really be combated is to remove, as far as possible, any reason for subjects to falsify (i.e. by attempting to remove any motivation to falsify). Much can be done in this direction during

the actual administration of the questionnaire. The selection and training of suitable field workers is of paramount importance. There is no doubt that the approach, bearing and general 'style' adopted in the classroom is an important factor influencing the degree of defensiveness or co-operation obtained. Team leaders are instrumental in setting a suitable classroom atmosphere. In the present study, field workers were obtained from the Office of Population Censuses and Surveys. They participated in a training programme, during which they had dummy runs with 'difficult' subjects, and familiarised themselves thoroughly with the questionnaire battery. Two teams were formed, each comprising one team leader and three co-workers. Every effort was made to ensure that field workers were not identified with teachers, school officials, or any other authority figure. In addition, the questionnaires were so designed that a number of consistency checks were possible. Certain answers implied certain other answers, or were incompatible with others. Questionnaires were checked by field workers, both during the session and immediately after completion, for consistency. Field workers were also trained to recognise sections in which response patterning (i.e. in which subjects used 'left/right/left/right' or 'right/right/left/right/right/left' or some similar pattern for choosing their answers) or position preference was displayed. Whenever any difficulty arose, help was offered in an easy, friendly manner, often with a field worker sitting beside an individual and discussing any difficulties. Instructions on how to complete the various parts of the questionnaire were given by the team leaders in a standard form, using a standard array of visual aids, at the beginning of each session. Also, by outlining the nature and purpose of the project in general terms, it proved possible to create an atmosphere of friendly co-operation, with field workers and subjects involved in a common task.

Finally, during data analysis, the confirmation of basic fundamental hypotheses can affect the amount of confidence placed in the findings. For example, all comparable studies show increases in alcohol consumption with increasing age, and heavier drinking for males than for females. If these trends failed to appear, or were reversed, in the present study, then subsequent less predictable findings would be viewed with extreme caution. There are a number of such basic hypotheses which need validating before maximum confidence can be placed in the data.

At this point, it is also necessary to outline the manner in which certain information, particularly from the 'drink' questions, was treated during data analysis. It is certain that the precautions mentioned above do not completely remove all instances of incorrect reporting. Certain subjects could still feel pressures to respond in a 'socially acceptable' manner and thus protect themselves from censure, especially if their fears were not completely allayed by the assurance of anonymity. Thus subjects' answers to the drinking questions are used primarily for *ordering* subjects rather than as absolute measures of quantity consumed. Jessor (1968) writes on this topic, "Because of the inevitable effect of social desirability pressures in leading most respondents to consciously or unconsciously underreport their drinking deviance, it would be naive for either the researcher or the reader to accept the face value of the interview or test scores as wholly accurate representations of the amount of drinking and problem behaviour actually taking place in the research community. If we make the assumption that the distorting effects of memory and self-protection have a roughly equal influence on all respondents, then we should at least be able to

order the respondents fairly accurately with respect to their drinking behaviour. Even without such an assumption, *groups* of respondents can probably be ordered accurately since individual differences in amount of distortion can then be readily assumed to cancel each other out. The actual scores reported by the respondents are simply considered as *symbolic* of the extent of the particular behaviour being studied."

Main sample

The sample for the main study was designed by the Office of Population Censuses and Surveys. The selected sample comprised 1587 individuals. Out of this number there were 249 non-contacts and one refusal, leaving a total of 1337 completed questionnaires.* Subjects were sampled within the age range 14 to 17 years so that a study could be made of the development of drinking behaviour during the years immediately preceding majority. A full and detailed account of the sampling procedure is given in Appendix 4.

Data analysis

Upon completion of the questionnaires by all subjects, marking and coding of responses took place. After thorough checking the data were transferred onto magnetic tape. Analysis of the data falls into three parts. In part one, the data are mainly descriptive. Part two comprises data of a more truly analytic nature. In part three, certain higher-order analyses are described, which attempt to bring both descriptive and analytic data together to give a more complete picture of adolescent drinking and drinkers.

*Out of this total, a further 16 questionnaires had to be discarded, giving a total of 1321.

CHAPTER 2

Results: Part 1

The nature of adolescent drinking

A vast majority of adults consume beverage alcohol from time to time, and can be loosely classified as drinkers. Abstainers form only a minority. Various surveys indicate that about 80% of the adult population make regular use of beverage alcohol. The present study shows that most young people within the age range 14 to 17 years have had some contact with alcohol before they reach the age of majority. In reply to the question, "Have you ever tasted an alcoholic drink?", 91.7% of all females and 95.6% of all males endorsed "Yes". Clearly these percentages include many subjects who have tasted alcohol only on special occasions (weddings, New Year, etc.) and who have not tasted alcohol outside this kind of context. However, the figures show just how widespread experience of alcohol is amongst young people in Glasgow, and also suggest that there was no widespread defensive reaction to this question. Table 1 gives the percentages, split by sex, of the respondents answering "Yes" within each age group (those answering "No" make up the remainder in each cell.)

Table 1. Percentage answering "Yes" to the question, "Have you ever tasted an alcoholic drink?", in each age group (Q. 3.11)

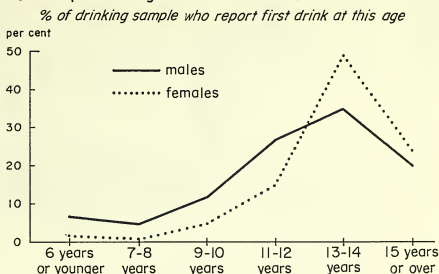
Percentage answering "Yes" in each age group

Sex \ Age	14 yrs.	15 yrs.	16 yrs.	17 yrs.
Male	91.9 (N=123)	94.7 (N=228)	96.6 (N=233)	97.7 (N=217)
Female	85.0 (N=147)	93.7 (N=222)	95.3 (N=128)	95.6 (N=23)

The table shows small but consistent increases in the percentage who have tasted alcohol with increasing age; at each age level, the percentage for the girls lags slightly behind that for the boys. The striking feature of the table, however, is the small degree of difference between cells, which suggests that for young people introduction to alcohol occurs at or before the age of 14. A clearer picture emerges from an examination of the age at which subjects report first tasting alcohol. This is portrayed graphically in Fig. 2. Separate curves are given for males and females.

The curves for both sexes follow a similar pattern but the females show a more peaked distribution. The slight hump at the start of the curve is probably due simply to the width of this first category compared to the others. It appears, therefore, that most adolescents remember first experiencing alcohol between the ages of 13 and 14 years; 47% of boys and 27% of girls report being introduced before this modal age; and 19% of boys and 24% of girls after this age.

Fig. 2. Reported age of first drink (Q.3.12)



It is clear that many young people are introduced to alcohol by their parents, though other adults and boys and girls of their own age are also important in this respect. In reply to the question, "Who gave you your very first taste of alcohol?", by far the largest percentage of endorsements were in the 'parents' category. Table 2 shows the differing percentages of boys and girls endorsing each category. The figures for males and females are very similar. The rank orders are identical.

Table 2. Source of first taste of alcohol
"Who gave you your very first taste of alcohol?" (Q. 3.13)

Percentage of all drinkers endorsing each category

	Males	Females
Parents	47.4%	39.6%
Boy or girl of own age	24.5%	23.1%
Adult, other than parents	12.5%	16.7%
An older boy or girl	7.8%	12.2%
Older brother	5.0%	5.2%
Older sister	1.8%	2.5%
Brother or sister not older	0.4%	0.6%

The finding that parents are the most frequent source of the first drink confirms the findings from other studies. The difference between the numbers of males and females receiving their first drink from parents may reflect the finding from the group discussions that drinking in females is generally viewed less favourably than in males, so that parents may be a little more reluctant to introduce daughters to alcohol than they are to introduce sons. This conclusion is tentative, however, since the difference in this category, between sexes, is of marginal significance.

In the present study, data were collected on drinking behaviour in three types of setting in which differing social controls are assumed to be present. The drinking situations are (1) in the home of parents or adult relatives, (2) in the home of a friend, (3) somewhere other than in a home. In Figs. 3, 4 and 5, data are presented for each of these situations separately, showing how recently alcohol has been consumed, and the percentage of drinkers endorsing each category of recency is given, for each age group and each situation. Figs. 3, 4 and 5 show responses to questions Q. 3.15a, Q. 3.16a and Q. 3.17a., "When was the last time you had a drink in . . . etc." The recency categories are denoted by the numbers one to five, in the following way:

- 1=never
- 2=over three months ago
- 3=within the last three months
- 4=within the last month
- 5=within the last week

When administered to a representative sample of drinkers, questions Q. 3.15a, Q. 3.16a and Q. 3.17a give a guide to the *frequency* of drinking in various situations. (It was thought that answers to the more vague question, "About how often do you drink in . . . etc.", would tend to be more prone to subjective distortions.) The histograms display changes in profile with increasing age, though this change is more marked in certain situations, and for males. The most striking change is for males in the 'outside the home' situation. This changes from a figure of over 40% 'never' at age 14 years, to 50% 'within the last week' by age 17. For males, increased drinking is evident for all situations with increasing age.

This trend is less pronounced with females. Finally, examination of these histograms shows that, for males, at age 14 most drinking takes place in the home and the category 'never' is most frequently endorsed for situations outside a familial home. At age 17, however, most drinking takes place in a non-home setting, although drinking in the home has also become more frequent. Fig. 6 shows graphically a break-down of drinking outside a home setting (i.e. 'a place other than someone's home'), in which frequency of drinking in public houses is compared with frequency of drinking in the open air, split by age and sex. It can be seen, that for both sexes, drinking in public houses increases with age. It is interesting, however, that frequency of drinking in the open air is *inversely* related to age.

Data were obtained for three types of drinking situation. Drinking in each of these situations is now described in more detail.

Fig. 3. Last occasion alcohol was consumed in home of parents or adult relatives

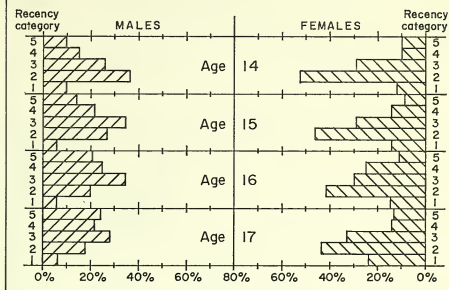


Fig. 4. Last occasion alcohol was consumed in home of a friend

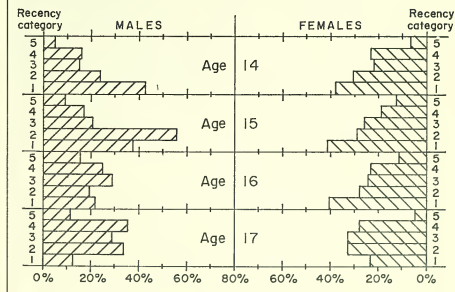
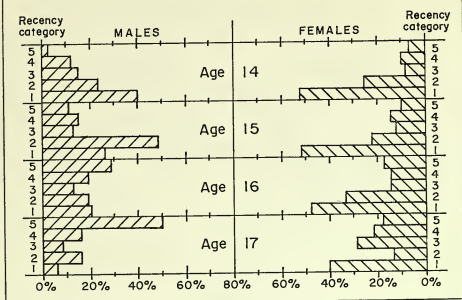


Fig. 5. Last occasion alcohol was consumed in place other than someone's home



In the parental home, or the home of adult relatives or friends of parents

As might be anticipated, early drinking in the home often takes place on special occasions, such as Christmas, New Year, or birthday parties. It appears, however, that with increasing age, drinking becomes more likely to take place on days which are not 'special' in this way. Table 3 shows the percentage of home drinking occasions rated as 'special' by each age group.

Table 3. Percentage of drinking occasions in the 'home' situation rated as 'special' "Was the occasion a special one?" (Q. 3.15b)

Age in years	Percentage endorsing 'special occasion'				$\chi^2=23.74$ for 3 d.f. ($p<.001$)
	14	15	16	17	
	75.7 N=219	74.9 N=387	66.0 N=320	58.2 N=218	

Out of a total of 1243 'drinkers', 1144 (i.e. 92% of all drinkers) have tasted alcohol in the parental home.* The above table shows that, for drinking in the parental home, or home of adult relatives or friends of parents, the tendency for such occasions to be 'special' declines with age. Drinking situations may also be characterised by the presence or absence of certain individuals, who may or may not serve as providers of alcohol for the teenager. In Table 4 the percentage

*For detailed breakdown of these figures see Appendix 6, Table 7.

Fig. 6. Relative frequency of drinking in public houses vs. open air, split by age and sex (Q.3.17b, ii and iii)

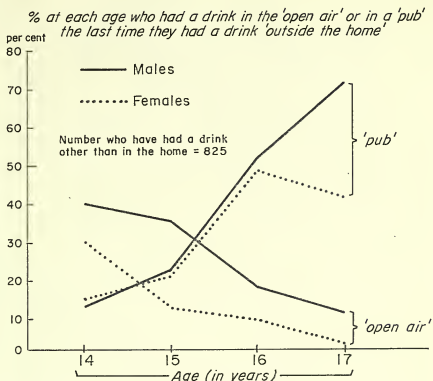


Table 4. Source of drinks in the 'parental home' situation
"Who did you get your drinks from?" (Q. 3.15c)

Home situation

	% providing drinks	% present but not providing drinks
Parents	45.8	23.1
Other adults	38.8	23.9
Older boys and girls	18.2	22.3
Boys and girls of same age, or younger	17.0	26.4
Older brother	8.8	13.8
Older sister	5.0	15.5
Brother or sister of same age or younger	1.8	24.9

of respondents who obtained drinks from each of a number of personal sources is given. For comparison, figures are also given for 'home drinking occasions' when the same people were present but were *not* providers of alcohol. This shows that the number of occasions on which certain individuals acted as sources of alcohol was not simply an artefact of the number of times they were present.

The above table shows the relative importance of different persons as sources of alcohol in the 'home' drinking situation. It is notable that whenever parents are present (that is, on 68.9% (45.8% + 23.1%) of 'home drinking occasions') they are almost twice as likely to serve drinks to young people as not to serve drinks. Other adults are also more likely to act as a source of alcohol than not to do so. On the other hand, all other non-adults (that is, all remaining categories) are *less* likely to distribute drinks, and *more* likely not to serve as a source. In the 'home' situation, therefore, adolescent drinking seems to be clearly under the direction of adults.

This section on drinking in the parental home or the home of adult relatives or family friends is concluded with a description of the beverages which are most popular, and the amounts consumed. Table 5 shows the rank ordering of drinks in terms of popularity, for each sex, and the percentage of subjects who had tasted each beverage the last time they were drinking in the 'home' situation.

Table 5. Beverages consumed in the 'parental home' situation

Percentage tasting each drink (with rank orders)

	Females			Males	
	%	Rank		%	Rank
shandy or cider	65.1	1	.001*	49.7	2
beer or lager	45.9	2	.001	76.3	1
stout	11.9	8	.001	22.9	6
whisky	16.3	7	.001	31.2	3
other spirits	25.9	4	N.S.	27.0	5
sherry or port	36.6	3	.01	28.7	4
other wines	19.0	6	N.S.	19.3	7
any other drinks	22.2	5	N.S.	18.0	8

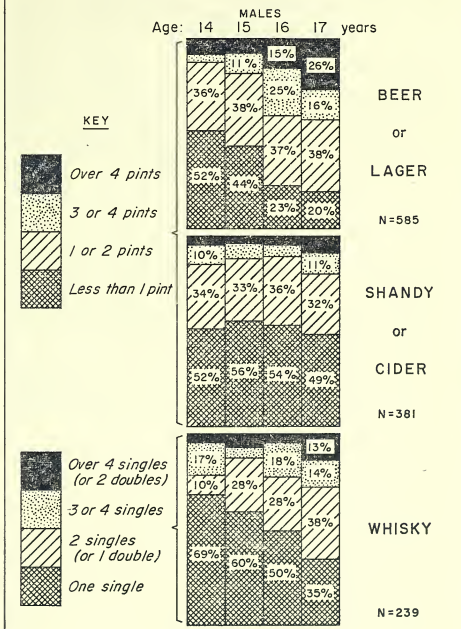
Total females (drinkers) N=477. Total males (drinkers) N=766.

*Chi-squared tests of significance of difference between two proportions obtained from raw scores. Results show whether males differ significantly from females in terms of frequency of consumption of different beverages. N.S. = Not significant. .01 = significant at the 1% level. .001 = significant at the .1% level.

Overall, there is perhaps a surprising similarity between the male and female preferences. The most striking differences occur for whisky and beer where male preference predominates, and for shandy/cider and sherry/port where female preference predominates. Stout is relatively unpopular, but also shows a sex difference. For males, the three most frequently consumed types of beverage are beer/lager, shandy/cider, and whisky; and for females, shandy/cider, beer/lager, and sherry/port. A more detailed description of the quantities of

each beverage consumed is given below. It is stressed once again that figures for absolute quantities consumed are probably less reliable as indices of actual amounts, and more reliable as indicators of the relative amounts consumed by different groups. Fig. 7 shows the quantities consumed by males in each group,

Fig. 7. Quantities of each beverage consumed in the 'parental home' situation - *Males*



for the three beverages most frequently consumed in the 'home' situation; these beverages are beer/lager, shandy/cider, and whisky.

Fig. 7 demonstrates how the amount of alcohol consumed increases as a function of age for male subjects. However, this trend does not apply for shandy/cider. It appears that, as age increases, the consumption of shandy and cider stays more or less constant. For beer/lager and whisky, however, consumption clearly goes up. This suggests that with increasing age the changes in drinking patterns are not simply increases in consumption, but are also characterised by mounting use of beer and spirits. It may be that cider and shandy serve as an introduction to alcohol for younger boys, but that in the later 'teens the most striking change is in the quantity of 'harder' alcoholic drinks consumed.

Concluding the data on the 'home' drinking situation are the comparable figures for females. It should be noted that the three most frequently consumed drinks here are shandy/cider, beer/lager, and sherry/port. Fig. 8 gives the 'home' drinking data for females, split by age. It is immediately noticeable that age trends are much less marked than for the males in Fig. 7. *Figures for the 17 year old girls should be treated with caution, however, due to the small numbers in this category.* For reasons described in the sampling section, 17 year old girls are under-represented in the sample.

In the home of a friend

Out of a total of 1243 'drinkers' in the sample, 884 had consumed alcohol in the home of a friend.* This compares with 1144 who had consumed alcohol in the 'home' situation. Table 6 gives the percentage in each age group who rated the last drinking occasion in the home of one of their friends as 'special'.

The trend for age is the same as in the 'home' situation—that is, more drinking takes place on occasions rated as 'non-special' as age increases. It should be noted that, overall, drinking in a friend's home is less likely to be 'special' for each age group than drinking in the 'home' situation (see Table 3).

Table 7 shows the relative importance of different individuals as sources of alcohol in the 'friend's home' drinking situation. Figures are also given for drinking occasions in 'the friend's home' when these people were present but were not providers of alcohol.

Compared with drinking in the 'home' situation (see Table 4), the most striking difference is the relegation of adults to third and fourth places in the list; this contrasts with the increase in the importance of 'boys and girls' as sources of liquor. There is also a preponderance of young people present. Other (non-parental) adults are also fairly important, and although they are present on only 40.5% of occasions, they are very likely to provide drinks. Parents, on the other hand, are almost as likely to provide drinks as not to provide them. However, the most important point about the above figures is that boys and girls of the respondent's age are predominant, both in terms of being present, and in providing drinks. The picture that emerges is thus one of a young people's party, in which adults play a secondary role.

*For detailed breakdown of these figures see Appendix 6, Table 7.

Table 8 shows the preferred beverage in the 'friend's home' situation, for males and females separately. For both sexes, the two beverages most frequently consumed are shandy/cider and beer/lager. This is the same as in the 'home' situation.

Fig. 8. Quantities of each beverage consumed in the 'parental home' situation - *Females*

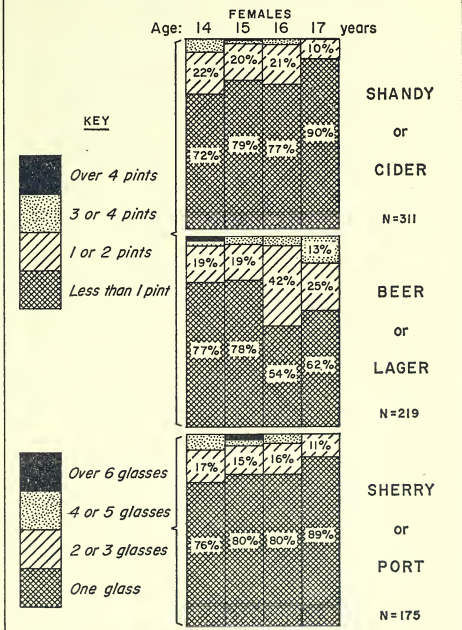


Table 6. Percentage of drinking occasions in the 'home of a friend' situation rated as 'special'
"Was the occasion a special one?" (Q. 3.16b)

Percentage endorsing 'special occasion'

Age in years	14	15	16	17
	60.2 N=141	57.3 N=272	51.3 N=261	44.8 N=210

$X^2=10.7$
for 3 d.f.
($p<.01$)

Table 7. Source of drinks in the home of a friend situation
"Who did you get your drinks from?" (Q. 3.16c)

'Friend's home' situation

	% providing drinks	% present but not providing drinks
Boys and girls of same age, or younger	46.6	27.6
Older boys and girls	36.4	16.5
Other adults	31.7	8.8
Parents	7.2	7.5
Older brother	5.3	4.2
Older sister	1.6	3.5
Brother or sister of same age, or younger	1.2	5.5

Table 8. Beverages consumed in the 'home of a friend' situation

Percentage tasting each drink (with rank orders)

	Females			Males	
	%	Rank		%	Rank
shandy or cider	40.5	1	.01*	49.7	2
beer or lager	35.6	2	.001	64.1	1
stout	5.8	8	.01	13.1	6
whisky	12.2	6	.001	24.1	3
other spirits	21.2	3	N.S.	20.5	4
sherry or port	14.5	5	N.S.	12.1	7
other wines	8.8	7	N.S.	14.9	5
any other drinks	14.9	4	N.S.	10.6	8

Total females (drinkers) N=477. Total males (drinkers) N=766.

*Chi-squared tests of the significance of difference between two proportions obtained from raw scores. Results show whether males differ significantly from females in terms of frequency of consumption of different beverages

For males, the third most popular drink is again whisky. Females, however, prefer 'other spirits' in the 'friend's home' situation as their third choice. This almost certainly means that girls drink sherry/port when in their own homes, where parents are most frequently present, but that when they go to a friend's house where adults, and particularly parents, are less frequently present, they drink spirits instead. Since girls drink whisky relatively infrequently, this may well mean that gin or vodka is consumed. The girls also indicate a fourth preference for 'any other drinks'. From the group interviews described in the 'methodology' section, it seems that this category would include such things as Martini, Babycham, Pony, Dubonnet and Advocaat.

The section on drinking in the home of a friend is now concluded with Figs. 9 and 10, which show the quantities consumed for each sex, split by age. Figures are given for the three most popular beverages.

Amount consumed appears to be related to age both for beer/lager and for whisky; no clear trend is apparent for shandy/cider. To this extent, the findings are almost identical to those for males in the 'home' situation. The main difference between the two situations, however, lies in the fact that quantities overall seem to be greater in the 'friend's home'. Compared with Fig. 7, Fig. 9 shows a greater percentage of drinking in the higher quantity categories. Conversely, Fig. 9 shows smaller proportions in the 'less than one pint' category for beer/lager; and for whisky, smaller proportions in the 'one single' category. All other categories seem to increase in size, though there is no really spectacular rise in any one of them. This suggests that in the 'friend's home' there is a general tendency for everyone to drink more than in the 'home' situation. The situation is not characterised by reckless drinking, however, since the percentages in the higher consumption categories show no dramatic increase.

Fig. 10 gives the comparable data for females. Once again, the effects of age are less apparent than for the males. However, if the data are compared with those from Fig. 8, a general increase in amounts consumed is readily observable. In particular, the number of people endorsing 'less than one pint' and 'one single' is markedly less than in the 'home' drinking situation. The girls resemble the boys, therefore, in that consumption increases in the 'friend's home'. Attention is again drawn to the small numbers in the 17 years old age category for females; the figures for 'other spirits' (Fig. 10) are based on only 8 cases. *A seemingly clear increase in the consumption of 'other spirits' for the first three age groups is reversed by the results of these 8 subjects.* (In many ways, this section of the sample behaves consistently in a manner opposite to that expected, suggesting that this is an atypical group.)

In a place other than someone's home

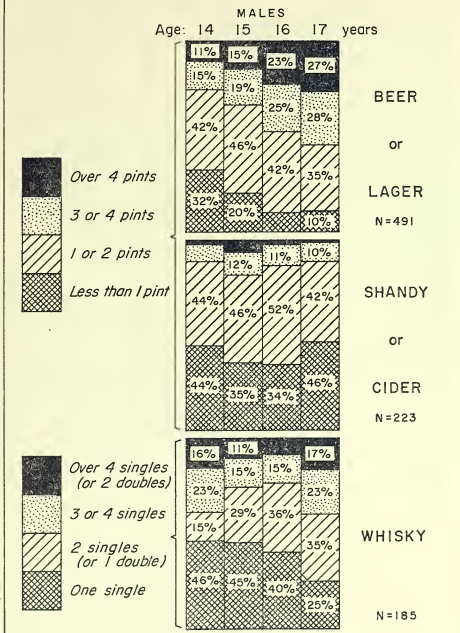
Out of a total of 1243 'drinkers' in the sample, 825 reported consuming alcohol in a place other than someone's home.* This situation includes drinking at dances, in public houses, in the open air, and 'somewhere else'.

From the results in Fig. 11, it appears that, for males, drinking in all situations other than the public house or hotel becomes less frequent with increasing age. In contrast there is marked increase in drinking in the public house or hotel bar. By age 17, therefore, drinking in the open air or the 'somewhere else' categories is the exception rather than the rule, and it is interesting to speculate whether

*For detailed breakdown of these figures, see Appendix 6, Table 7.

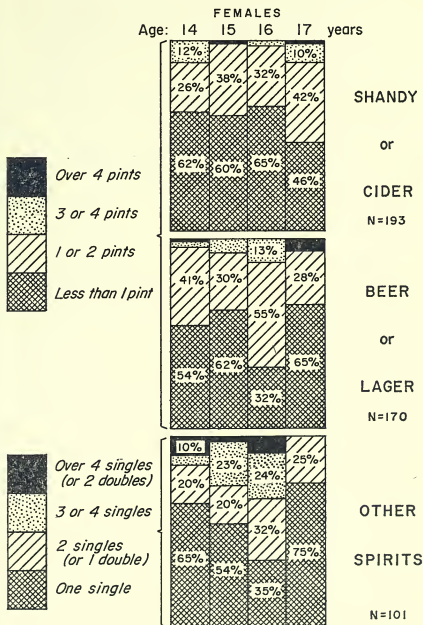
drinking in these situations has any implicative significance for 17 year olds. For females it is once again less easy to discern any overall pattern with respect to age. It appears that for the 'outside the home' category, dance halls provide the most likely venue for the consumption of drinks. Since many dance halls are

Fig. 9. Quantities of each beverage consumed in the 'home of a friend' situation - *Males*



not licensed for the sale of alcohol, it seems likely that a number of females take alcohol into the dance. Conversation with girls in the Glasgow area suggests that this might indeed be the case, since clandestine drinking, especially in the women's toilets, is frequently reported. A further frequent subjective report is

Fig. 10. Quantities of each beverage consumed in the 'home of a friend' situation - *Females*



that the boys do most of their drinking in the pubs up to closing time. The closing of the pubs manifests itself in the form of a sudden influx of boys into the dance hall at a few minutes past ten. The suggestion that drinking in pubs is predominantly a male culture pattern is reflected by the frequency counts shown in Fig. 11.

Table 9 presents data for each age group on the number of occasions rated as 'special' in the 'other than someone's home' situation.

Once again, the number of occasions reported as being 'special' decreases with the age of the respondent. In addition, the overall number of 'special' occasions is less than in either the 'home' or 'home of a friend' situations. For drinking in the parental home, the average percentage of 'special' occasions over all age groups is 68.7%; for the 'home of a friend' 53.4%; and for 'a place other than someone's home' 26.3%

Fig. 11. Percentage drinking in each location outside the home

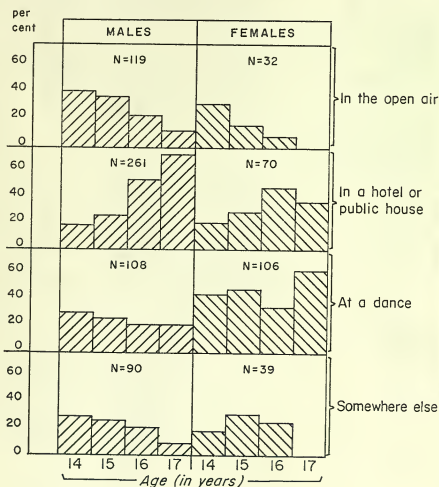


Table 9. Percentage of drinking occasions outside the home rated as 'special'
 "Was the occasion a special one?" (Q. 3.17c)

Percentage endorsing 'special occasion'

Age in years	14	15	16	17	X ² =29 for 3 d.f. (p<.001)
	31.5 N=127	34 N=238	27 N=248	12.7 N=212	

Table 10 illustrates the relative importance of different individuals in the 'outside the home' situation, showing whether they were present or absent and whether they served as sources of alcohol.

Table 10. Source of alcohol outside the home
 "Who did you get your drinks from?" (Q. 3.17d)

'Outside the home' situation

	% providing drinks	% present but not providing drinks
Boys and girls of same age or younger	38.6	28.4
Older boys and girls	37.3	14.7
Other adults	25.6	10.2
Parents	8.1	5.2
Older brother	3.5	4.4
Older sister	1.8	2.9
Brother or sister of same age or younger	0.09	5.2

In terms of the order of importance of different individuals the above table is identical with Table 7 ('friend's home'). Young people predominate, both in terms of being present, and as providers of alcohol. On both this and the previous occasion, the position of 'other adults' is a little puzzling, especially when compared with the small contribution made by parents. It is unfortunate that information about the approximate age of these 'other adults' is not available from the present study. It would have been useful to know whether they were young or old adults, and also at what age 'older boys and girls' become 'other adults'. It could be that the 'other adults' present in the 'friend's home' and 'outside the home' situations are in some way different from the 'other adults' present in the 'parental home'.

In Table 11, the beverages most frequently consumed in the 'outside the home' situation are given for males and females, with the rank orders.

For both sexes, the three most frequently consumed beverages are the same as in the 'home of a friend'. However, for the females, beer/lager replaces shandy/

cider as the first choice. Also amongst females, sherry/port moves down almost to the bottom of the lists and is consumed only slightly more often than stout.

Table 11. Beverages consumed outside the home
Percentage tasting each drink (with rank orders)

'A place other than someone's home'

	Females			Males	
	%	Rank		%	Rank
shandy or cider	23.1	2	N.S.*	19.3	2
beer or lager	25.4	1	.001	62.3	1
stout	3.8	8	.001	10.3	5
whisky	6.7	6	.01	13.1	3
other spirits	15.1	3	N.S.	12.6	4
sherry or port	6.3	7	N.S.	4.9	8
other wines	9.8	5	N.S.	9.0	6
any other drinks	11.9	4	.001	5.6	7

Total females (drinkers) N=477. Total males (drinkers) N=766.

*Chi-squared tests of the significance of the difference between two proportions obtained from raw scores. Results show whether males differ significantly from females in terms of frequency of consumption of different beverages.

By comparing Tables 5, 8 and 11, the general decrease in the percentages of drinkers in each cell shows that fewer people have consumed alcohol 'outside the home' than in the 'home of a friend'; and that fewer people have consumed alcohol in the 'home of a friend' than in the 'parental home'.

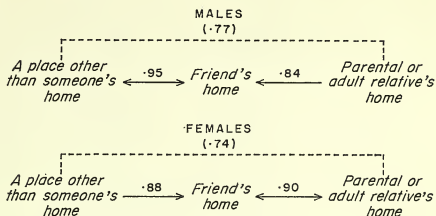
The matrix of rank correlations between the three situations in terms of the data in Tables 5, 8 and 11 was computed, for each sex. In Fig. 12 the relationships are represented diagrammatically. Arrows indicate the direction of the single highest correlation for each situation.

The diagrams show that, for both sexes, the 'outside the home' and the 'parental home' situations have the lowest level of association. The order of similarity is thus the same for both sexes. The direction of the single highest coefficients suggests that for males the 'outside the home' situation is more like the 'friend's home' style of party than like the 'parental home' situation. For girls however, the two 'home' occasions have as much in common with each other as with the 'outside the home' occasion.

The data on alcohol consumption in a place other than someone's home is concluded with Figs. 13 and 14, which show the quantities consumed by each sex, split by age.

For males, the three most frequently consumed beverages are beer/lager, shandy/cider, and whisky. For beer/lager, rising consumption with increasing age is very clearly marked, and in this respect beer/lager seems to be the most

Fig. 12. Intercorrelations of three main drinking situations - *Males, Females*



Note: All coefficients significant at .05 or better.

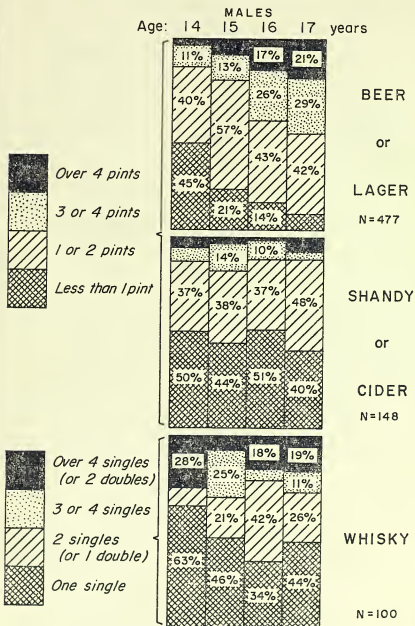
consistent of the three beverages shown. It is also apparent that as the 'less than one pint' category becomes smaller with increasing age, the two high consumption categories become progressively larger. As on the two occasions described previously, shandy/cider fails to show any *clear* influence of age. The results for whisky are notable for the fairly high percentages consuming more than four single 'shots'. This is higher than in either of the previous situations.

The data in Fig. 14 for the females is again rather more difficult to interpret. There appears to be no association between the consumption of beer/lager and age. This is in common with the other situations described. There are, however, consistent increases in the consumption of shandy/cider and of 'other spirits' with age, *which are confined to this one situation*. It is therefore tempting to argue that this situation is one where the girls feel least subject to social desirability pressures. Mention has already been made of the group of 17 year old girls which behaves atypically in many ways. This sample would appear to have a predominantly middle and upper-middle class background. There is, however, an interesting contrast between their 'respectable' consumption of sherry/port and 'other spirits' in the two 'home' situations and the way they drink 'other spirits' when they are outside the constraining home settings. Finally, the fact that age trends are unique to this situation may help to explain the pattern of correlations described in Fig. 12, which shows the greatest similarities between drinking in the parental and friend's homes, and which suggest that the 'outside the home' situation is least like the other two, for the females. One might conclude that, for females, drinking outside the home is less inhibited than in either of the home situations.

In terms of the quantities consumed, comparisons can be made between the three situations described so far. As a general principle, it appears that young people drink more *per capita* in the homes of their friends than in their own

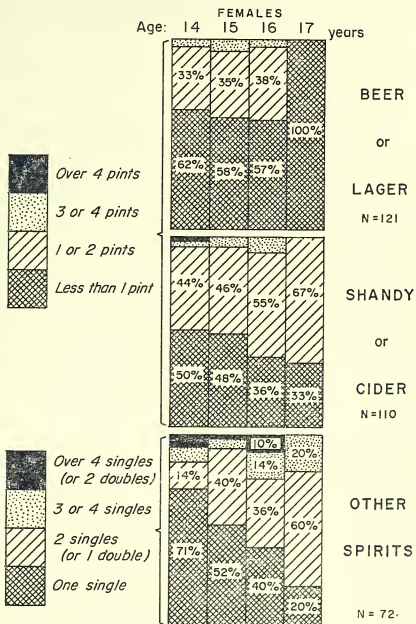
homes. Similarly, more alcohol is consumed *per capita* outside home situations than in the homes of friends. From the numbers who report drinking in each situation, it appears that the 'parental home' drinking situation is characterised by being common to large numbers of adolescents (92% of the total sample)

Fig. 13. Quantities of each beverage consumed outside the home - *Males*



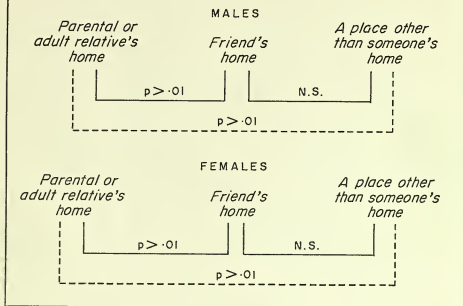
who each drink relatively small amounts. It is probable that adults in this situation drink more heavily; the point is that the adolescents do not. Drinking in the home of a friend, in a situation that may be described loosely as a party, is an experience common to fewer young people (71% of the total sample) who drink

Fig. 14. Quantities of each beverage consumed outside the home - *Females*



rather more than is usual in the parental home. In places outside the home, drinking experience is common to 66% of the sample, who drink slightly more than they do in the home of a friend. In Fig. 15 below, the significance of the differences in the quantities consumed (taking into account all age groups and all beverages) is given, from the results of a series of sign tests.

Fig. 15. Significance tests for quantities consumed in three main drinking situations - *Males, Females*



The pattern is the same for both sexes. The implication is clearly that drinking in the home situation is characterised by the consumption of quantities which are significantly less than in other drinking situations.

Adolescent smoking behaviour

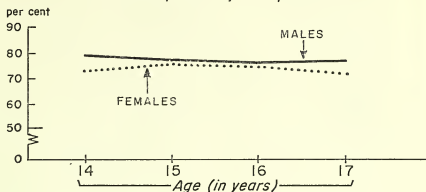
In concluding Part 1, data concerning the smoking behaviour of young people in Glasgow are presented. This is pertinent because in some ways drinking and smoking serve similar functions for young people. However, since the main topic of this report is drinking behaviour, this sub-section is necessarily brief.

Figure 16 gives data for question 3.2, "Have you ever smoked a cigarette?".

The highest point occurs at 14 years, for males, where 79.3% of subjects have had at least some experience of smoking. Within sex groups, however, there is no significant difference between the proportions smoking at each age level, suggesting that increasing age does not in fact lead to a rise in the percentage who have ever smoked. The implication is that by the age of 14-15 years, smoking behaviour (or non-smoking behaviour) is already an established

Fig. 16. Percentage with smoking experience at each age level

Note: The figures for 15 year olds include those for 14 year olds; figures for 16 year olds are based on 14, 15 and 16 year olds, and so on.

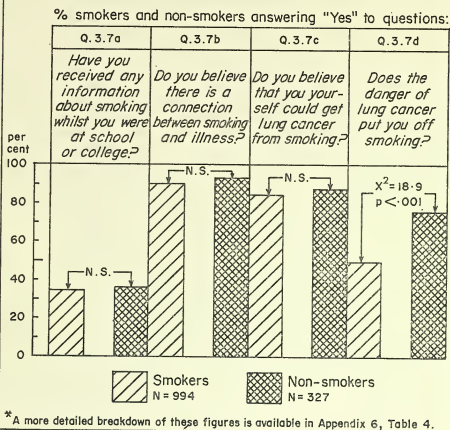


behaviour pattern, and that little further experimentation takes place after this age. These results can be compared with Bynner's findings (1969) about the incidence of smoking in a sample of schoolboys. Bynner reported that by age 15, slightly over 80% of his sample 'had smoked a cigarette'. This figure is very close to the incidence found in the present study. It should be noted, however, that the age range studied by Bynner was 11 to 15 years, and that his steeply sloping cumulative frequency curve appeared to be nearing (or had reached) an asymptote by age 15. It seems fairly clear, therefore, that had Bynner's study included 16 and 17 year olds, his cumulative frequency curve would have reached a plateau. Although the manner in which the data was elicited differs in the two studies, in some sense the graph in Figure 16 can be seen as a continuation of Bynner's, with the exception that the present results indicate a levelling off *before* 15 years. This could be explained if experimentation with cigarettes takes place a year earlier, on average, in the Glasgow sample.

In order to discover if there was any relationship between smoking behaviour, and belief or disbelief in the dangers of lung cancer, a series of questions was put, dealing with the topic of cancer and including a question about health education. Fig. 17 shows the percentages of smokers and non-smokers who answered "Yes" to each of the questions shown.

The figures show, firstly that less than 40% of subjects claimed to have received *any* information about the effects of smoking from a source inside the school. Much of the information that was gained would also be of a very general type, as the question was broad ranging and could not differentiate between formal lessons on health education and health instruction of a less organised nature. Secondly, there appears to be little relationship between the belief in the harmful effects of smoking, and smoking behaviour itself. Thus, the belief that smoking

Fig. 17. Influence of health education and beliefs about smoking and illness on smoking behaviour



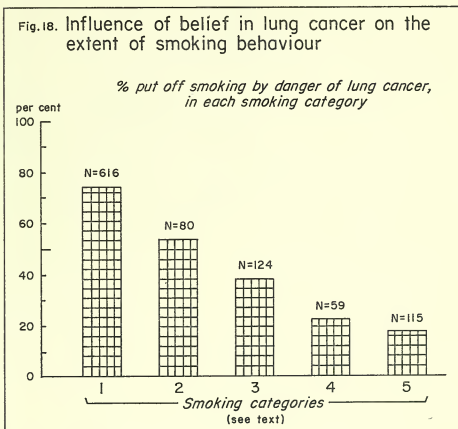
can cause illness, and that smokers themselves are vulnerable to cancer, is just as prevalent among smokers as non-smokers. In this respect, the findings resemble those of Evans *et al* (1970), who reported that a change in attitudes towards dental hygiene did not correspond with a change in tooth-brushing behaviour. The important point about the present findings is that *knowledge of the possible consequences of smoking does not mean that smoking will not take place*. There is no evidence here, therefore, that any lessons of a purely informational kind will cause change in behaviour.

A significant difference between smokers and non-smokers emerges only in respect of the question, "Does the danger of lung cancer put you off smoking?". Results show that fewer smokers than non-smokers are put off smoking by the danger of cancer. It is not clear, however, if this result is simply an artefact, since if one believes in a connection between smoking and cancer, and if one smokes at all, then clearly the danger does not put one off smoking, by definition.

Answers to this question were therefore examined more closely, with smokers being subdivided in terms of a 'smoking index', in the following way:—

- category 1.....used to smoke, but no longer does so.
- category 2.....smokes 1 to 4 cigarettes per week.
- category 3.....smokes 5 to 20 cigarettes per week.
- category 4.....smokes 21 to 40 cigarettes per week.
- category 5.....smokes over 40 cigarettes per week.

The results in Fig. 18 show the percentage of smokers in each smoking category answering "Yes" to the question, "Does the danger of lung cancer put you off smoking?".

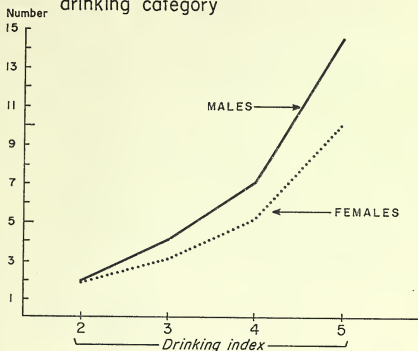


Answers to question 3.7d do not merely differentiate between smokers and non-smokers, but between people who smoke to differing degrees. The more an adolescent smokes, the less likely is the fear of lung cancer to act as a deterrent. The implication here is that if health education is oriented towards the dangers of smoking, *the heavy-smoking group will be the most resistant to education.*

In his study of schoolboy smokers, Bynner (1969) suggested that smoking has considerable 'symbolic value' for young smokers. Data will be presented later which suggest that drinking also has symbolic value, and in many ways

serves the same kinds of function as smoking. There is a relationship between smoking and drinking, which adds credence to the view that in *some ways* the two may serve similar functions. For males, a correlation of 0.38 was obtained between drinking and smoking indices, and for females 0.29 ($p > .001$ in both cases). Bearing in mind the limited nature of the indices themselves, these coefficients are quite high. In Fig. 19, the average number of cigarettes smoked per week by males and females in each drinking category is shown. The increase in the number of cigarettes smoked per week with increases in the drinking index is obvious.*

Fig. 19. Average number of cigarettes smoked each week by boys and girls in each drinking category



Note: The average number of cigarettes smoked per week by non-drinkers is 4 and 3 for males and females respectively.

Summary

The majority of young people (85% of females, 91.9% of males) have tasted alcohol by the age of 14 years. These percentages increase between 14 and 17 years. Examination of drinking in the parental home shows that alcohol is most frequently offered to young people by parents or adult relatives. In the parental home, drinking appears to be largely confined to 'special occasions' for the

*For explanation of drinking index, see Appendix 1.

younger girls and boys. With increasing age, however, drinking tends to take place on occasions which are more frequently 'not special'. Boys seem to drink mainly beer and lager, but shandy, cider, and whisky are also consumed. Girls seem to prefer shandy/cider, beer/lager, and sherry/port. There appears to be an increase in consumption with increase in age for the males, but no such trend is observable for the females.

The quantities consumed in 'the home of a friend' are greater than in the 'parental home' situation. Also, the overall number of occasions rated as 'special' is less than for the parental home, though the number of 'special' occasions again decreases with age. In contrast to the parental home, drink is usually obtained from companions of about the same age rather than adults. For boys, the most frequently consumed beverages in this situation are again beer/lager, shandy/cider, and whisky. The girls still like shandy/cider and beer/lager, but seem to prefer spirits (possibly gin or vodka) when drinking in their friends' homes, rather than sherry/port. Age trends emerge for the boys for beer/lager and whisky. A seemingly clear increase in spirit drinking with increasing age, for females, is obscured by the results from a small, possibly atypical, group of 17 year olds.

When drinking in the 'outside the home' situation, quantities consumed tend to be greater than in either the 'parental home' or 'home of a friend' situation. The number of drinking occasions rated as 'special' is also smaller than in either of the two previous situations, and again shows a decline with increasing age. For the males, there appears to be a transition between the ages of 14 and 17 years, from drinking in open-air situations to drinking in the public house. With increasing age, male drinking becomes increasingly centred on the 'pub', whilst drinking in clandestine situations declines. The girls show a division between dance halls and public houses as the main locus of drinking. Drinking in the open-air also declines with increasing age amongst the girls. The beverages most frequently consumed are beer/lager, shandy/cider and whisky, for the boys; and beer/lager, shandy/cider and 'other spirits' for the girls. The most marked increases in consumption with increasing age are in beer/lager for males, and shandy/cider and 'other spirits' for females.

Drinking in a friend's house and outside the home seem to be similar both in terms of beverages preferred, and quantities consumed, for the boys. The girls' results, however, suggest that the friend's house most resembles the parental home in terms of beverage choice, but resembles the 'outside the home' situation in terms of quantities consumed.

Finally, the data on smoking behaviour shows that, by age 14, 79.3% of the sample have at least some experience of smoking. There appears to be little increase in the incidence of smoking after this age. On the whole, information about the effects of smoking, and beliefs about health hazards, do not distinguish between smokers and non-smokers. However, more non-smokers than smokers report that they are 'put off' smoking by the danger of lung cancer. There is a marked association between increases in the number of cigarettes smoked and increasing alcohol consumption, suggesting that in some ways cigarettes and alcohol may be functionally equivalent for certain groups of individuals.

CHAPTER 3

Results: Part 2

Correlates of adolescent drinking

This part contains a variety of different types of information. Firstly, additional survey data are presented, similar in nature to the data in Part 1. These are followed by data which can more accurately be described, in a statistical sense, as 'correlational'. The correlation data are concerned with the association of various demographic and behavioural variables with drinking and smoking indices. Finally, data of an analytic nature are presented, dealing with certain aspects of interpersonal perception.

Parental status, pocket money, and drinking behaviour

For the boys, a small positive correlation was found ($0.14 \text{ } p > .001$) between drinking index and occupational status of parents, indicating that drinking tends to be heavier amongst boys whose parents have lower occupational status. For the girls a correlation of $.014$ (not significant) was found between these variables*. Although these correlations are extremely low, it is interesting to speculate about what aspects of occupational status might be related to drinking behaviour. In this context, Bynner's (1969) finding of a relationship between pocket money and the number of cigarettes smoked by his sample of schoolboys offers a useful clue. In the present study, the data suggest that amount of pocket money is in fact related to occupational status of parents, though perhaps not in the way that might be expected. In addition, pocket money is found to be related to the amount of drinking which takes place. Figures 20 and 21 show respectively the relationship between pocket money and parents' occupational status, and between pocket money and drinking index. (The term 'pocket money', as used in this study, refers to the total cash available, regardless of source. It is not confined to parental contributions.) Figure 20 shows that the greatest personal spending power is in the hands of classes 4 and 5, and the least in class 1. This is in no way a paradox, since classes 4 and 5 are less likely to stay on at school after the age of 15, and more likely to have part-time jobs while they are still at school. Figure 21 shows how the amount of pocket money received is related to the amount of alcohol consumed. It appears at first sight, therefore, that pocket money is one component of social status which is related to drinking behaviour, especially for males. In Figs. 20 and 21, data are included for the females, for the purposes of comparison.

From the data presented in Figs. 20 and 21 it can be seen, firstly, that the amount of money available is related to the amount of alcohol consumed, and secondly that the amount of money available is related to parents' occupational

*Occupational status of parents was coded from information gathered from Q. 1.10, scored into five categories on the basis of the Registrar General's classification of jobs and occupations. Where the father was absent or did not work, the mother's occupation was used. Where the mother was absent also, or did not work, or in any other instance where information was ambiguous or not meaningful, the person was assigned to the modal class for the school or college group of which he or she was a member.

Fig. 20. Amount of pocket money received each week by boys and girls in each occupational status category

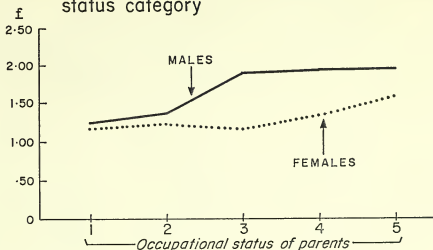
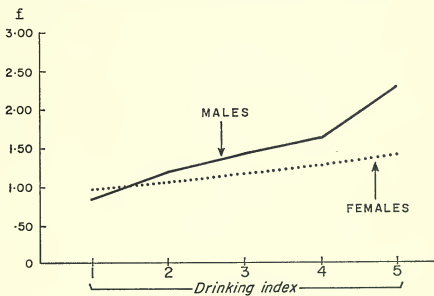


Fig. 21. Amount of pocket money received each week by boys and girls in each drinking category



status. Since the three variables money, occupational status of parents, and alcohol consumption can probably only occur in a temporally unique sequence, it is tempting to speculate that the causal sequence of events is as follows:—



Unfortunately, however, the situation is less straight-forward, because both amount of pocket money, and amount of alcohol consumed, are a function of age as well as parents' occupational status. Thus, although the slight relationship of alcohol consumption to occupational status of parents still stands (for the males), the postulation of money as an intervening variable could be completely spurious, since money and drinking both increase with age. The results shown in Figure 21 could, consequently, arise from either age or occupational status differences.

In order to discover whether the data on pocket money could be attributed solely to the effects of age, an analysis of variance was performed. For purposes of comparison, the data for the females were also subjected to the same analysis, and separate summary tables are presented for each sex. The analysis consisted of a $p \times q$ factorial design, with correction for unequal cell frequencies (Winer, 1962).

The results of the analysis of variance (Table 12) show that two main effects are present. Pocket money is found to vary in association with age and alcohol consumption. There is no interaction, and similar results are obtained for both sexes. The hypothesis that results in Fig. 21 are due simply to the effects of age is

Table 12. Analysis of variance showing increase in pocket money as a function of age and alcohol consumption

Males				
Source of variance	Degrees of freedom	Mean square	F	
A. Index of drinking	4	110006.45	12.04	$p > .01$
B. Age	3	247432.40	24.09	$p > .01$
A \times B Interaction	12	9070.20	0.99	N.S.
Within cell	781	9133.89		

Females				
A. Index of drinking	4	27856.69	5.07	$p > .01$
B. Age	3	15013.29	2.73	$p > .05$
A \times B Interaction	12	1350.92	0.24	N.S.
Within cell	500	5493.92		

therefore rejected, and it is concluded that increasing amounts of available money are related independently to both increasing age and to increasing alcohol consumption.

Spare time activities and drinking behaviour

Certain sections of the first questionnaire in the battery were designed to elicit information about subjects' hobbies and pastimes. Responses to these items were examined in order to discover if any relationship existed between drinking and smoking indices, and different types of leisure activities. In fact, no very clear picture emerges. A matrix of the variables which provided significant coefficients is given in Tables 13 and 14. In both cases, separate tables are presented for each sex.

Table 13. Intercorrelations between *group* pastimes, drinking and smoking behaviour (Q. 1.5) (i-x)

Males								
	D.I.	S.I.	i	ii	v	viii	ix	x
drinking index (D.I.)	X	0.38	N.S.	N.S.	N.S.	0.09	0.35	0.35
smoking index (S.I.)		X	N.S.	N.S.	N.S.	N.S.	0.31	0.29
go to the pictures (i)			X	N.S.	N.S.	N.S.	N.S.	0.09
play a sport for a school or club team (ii)				X	N.S.	0.26	0.13	0.13
do a part-time job (v)					X	N.S.	0.13	0.17
go to a youth club (viii)						X	0.12	0.21
go to a party (ix)							X	0.56
go to a dance (x)								X

Females								
	D.I.	S.I.	i	ii	v	viii	ix	x
drinking index (D.I.)	X	0.29	N.S.	0.12	N.S.	0.13	0.26	0.23
smoking index (S.I.)		X	N.S.	N.S.	N.S.	0.11	0.26	0.23
go to the pictures (i)			X	N.S.	N.S.	N.S.	0.14	0.19
play a sport for a school or club team (ii)				X	N.S.	0.27	0.15	0.12
do a part-time job (v)					X	N.S.	0.12	0.13
go to a youth club (viii)						X	0.16	0.17
go to a party (ix)							X	0.36
go to a dance (x)								X

(all coefficients significant at .01 level or better.)

On the whole, the correlation coefficients range from moderate to low. In this respect, the present data are comparable to other studies (e.g. Bynner 1969, Cahalan *et al.* 1969). Examination of the items in Table 13 reveals that these all involve activity outside the home, and usually some sort of group activity. Table 14, on the other hand, deals with 'individual' pursuits which would normally take place within the home. Table 13 shows correlation coefficient

Table 14. Intercorrelations between *individual* pastimes, drinking and smoking behaviour (Q. 1.6) (i-ix)

Males						
	D.I.	S.I.	i	iii	iv	ix
drinking index (D.I.)	X	0.38	0.21	-0.20	-0.19	N.S.
smoking index (S.I.)		X	0.13	-0.11	N.S.	N.S.
collect 'pop' or 'folk' records (i)			X	N.S.	0.16	0.12
read a book (iii)				X	0.11	N.S.
collect 'classical' or 'jazz' records (iv)					X	0.25
practise a musical instrument (ix)						X

Females						
	D.I.	S.I.	i	iii	iv	ix
drinking index (D.I.)	X	0.29	0.15	N.S.	-0.13	N.S.
smoking index (S.I.)		X	0.20	-0.13	-0.12	N.S.
collect 'pop' or 'folk' records (i)			X	N.S.	N.S.	N.S.
read a book (iii)				X	N.S.	0.14
collect 'classical' or 'jazz' records (iv)					X	0.26
practise a musical instrument (ix)						X

(all coefficients significant at .01 level or better.)

which are all positive; the highest cluster involves the four variables drinking index, smoking index, go to a party and go to a dance. Apart from these four, the remaining highest correlation is between 'play a sport for a school or club team' and 'go to a youth club'. Neither of these two latter variables has any appreciable correlation with drinking or smoking for the males, though the coefficients are slightly higher for females. There is a suggestion, therefore, that young people are less likely to smoke and drink if they play a sport and attend youth clubs than if they go to parties and dances. The relationship is not clearly defined, however, since the two are not mutually exclusive, so that many individuals undoubtedly attend youth clubs and sports events, as well as parties and dances.

The correlation coefficients shown in Table 14 are more mixed. The item 'collect pop or folk records' has positive correlations with both the drinking and smoking indices, whereas the items 'read a book' and 'collect classical or jazz records' tend to have negative correlations with drinking and smoking. There are so many influences upon choice of hobbies and pastimes, however*, that it is unwise to generalise from these findings. It would be extremely naive to conclude that if we could persuade young people to read books we would reduce their alcohol consumption.

Religious influences

The majority of religious people in Glasgow belongs to one of two religious sects. These are Church of Scotland (Protestant) and Roman Catholic. This dichotomy is well represented by the Rangers and Celtic Football teams. The possible effects of this religious dichotomy upon young people's drinking habits is a topic which has produced a certain amount of speculation in the past. The present data, however, fail to show any consistent differences in drinking behaviour between these two religious groups. Comparisons between specific age or sex groups sometimes reveal significant differences, but no overall pattern emerges.

It should be stressed that the data on religious affiliation and religious behaviour are not entirely satisfactory, for a variety of reasons. Firstly, question 1. 16b, "Which Church or religious group do you belong to?", fails to distinguish between 'active' members of a Church and 'nominal' members of a Church. Secondly, question 1. 15, "About how often do you go to Church, or some other place of worship?", is to some extent confounded by the different social pressures relating to church attendance which exist amongst Catholics as opposed to Protestants.

Out of the total sample, 868 individuals answered "Yes" to the question, "Do you belong to any church or religious group?", and went on to tick one of a list of denominations in answer to the question, "Which Church or religious group do you belong to?". Table 15 shows the numbers endorsing each denomination, expressed as percentages.

Apart from the Roman Catholic and Church of Scotland groups, the numbers in cells are too low to make meaningful comparisons possible. Although the study of the drinking habits of minority religious groups can often yield interesting results, there are insufficient numbers in the present study to justify even tentative conclusions.

Data from the Roman Catholic and Church of Scotland groups were examined further, however. In the first place, the percentages of R.C. and C. of S. falling into each drinking category were examined. Table 16 shows the results for each sex, together with chi-squared tests of significance of difference between proportions (based on raw scores) for each pair of cells.

No pattern is apparent from the data in Table 16. The significant differences show no tendency to cluster at one end of the scale, as might happen if the high

*For instance, a person who 'often reads a book' is more likely to be studying for an examination, more likely to be at school rather than at work, and probably has less money to spend on alcohol as a result.

Table 15. Religious affiliation
 "Which church or religious group do you belong to?" (Q. 1.16b)

Percentages in each group, split by sex

	Males	Females
Baptist	1.6	4.1
Church of Scotland	50.4	46.8
Episcopalian	2.4	1.6
Jewish	4.2	0.8
Methodist	2.0	2.7
Roman Catholic	34.4	38.6
Other	5.0	5.4

N=503 N=365

N.B. 503=62.8% of all males
 365=70.2% of all females

Table 16. Membership of Church of Scotland and the Roman Catholic Church, cross-tabulated with drinking index

D R I N K I N G I N D E X	Males			Females		
	R.C.	X ² (1d.f.)	C. of S.	R.C.	X ² (1d.f.)	C. of S.
1	8.1	4.6 p>.05	3.6	8.5	1.8 N.S.	4.7
2	17.9	2.7 N.S.	26.1	51.8	6 p>.05	34.1
3	17.9	4 p>.05	28.1	27.7	1.5 N.S.	35.9
4	18.5	.05 N.S.	17.4	6.4	8.4 p>.01	17.6
5	37.6	5.47 p>.05	24.8	5.6	0.8 N.S.	7.7
N	173		253	141		170

drinking index or low drinking index categories were composed mainly of people from one religious group. Similarly, the direction of the differences shows little consistency. Further examination suggests that occupational status of parents may be a confounding factor in the above tables, because the distributions of Roman Catholics and Church of Scotland members in terms of occupation status are different. In the present sample, Church of Scotland members appear to be over-represented in occupation groups 1 and 2 compared to Roman Catholics, who in turn appear over-represented in groups 4 and 5.

As far as the present data are concerned, the conclusion must be that no simple difference in drinking habits has been demonstrated between members of the two principal religious groups. Indeed, objectively there is little reason for supposing that such a difference might exist. On a more general level, however, small negative correlations were found between increasing Church attendance (regardless of which denomination) as measured by Q. 1.15 ('About how often do you go to Church, or some other place of worship?') and the drinking index. The correlations show a *slight* association between increasing Church attendance and decreasing drinking. For males, the correlation is -0.17 ($p > 0.01$) and for females -0.19 ($p > 0.01$). A multiple correlation analysis (described in Part 3) fails to demonstrate that Church attendance, or high scores on a religious scale, are important influences upon drinking for the majority of adolescents.

Perception of self and others, by abstainers, light drinkers, moderate drinkers and heavy drinkers.

This part of the project involved an examination of the perceptions of 'self' and of 'others' held by young people. For this purpose, a special group of questionnaires was developed. These were designated 2a, 2b, 6a and 6b. The method consisting of deriving a check list of bi-polar adjectives or phrases, which had been shown, as a result of the pilot survey, to be relevant in the evaluation of drinking behaviour and the perception of drinkers. The analysis of the pilot data has been dealt with in a previous section.

The final check list comprises 15 bi-polar alternatives, (e.g. happy-sad, rough-gentle, smart and tidy-not very smart and tidy) derived from a list of 35 items at the pilot stage. Subjects were asked to make ratings in terms of their perception of certain people or groups, on a five point scale, indicating which pole of the adjective or phrase is most characteristic of the person or group described. Subjects were asked to describe:

- (a) the kind of person I actually am
- (b) the kind of person I would like to be
- (c) the teenager who drinks heavily
- (d) the teenager who does not drink.

In order to perform this task, subjects completed the same 15 item list for each person described (i.e. four times in all). The layout and instructions for this task can be seen in Appendix 7. Comparison of data from questionnaires 2a and 2b reveals information about the perception of the self and the ideal self but, more importantly, shows where there are discrepancies between perceived reality and aspiration. Questionnaires 6a and 6b deal with the perception of drinkers and non-drinkers, and yield information about the nature of certain stereotypes and prejudices.

The data from the four questionnaires were subjected in the first instance to a principal components analysis. In essence, this involves describing each subject's answers to a large number of questions in terms of a smaller number of dimensions or 'factors'. The advantage of this type of analysis is that in describing young people's perceptions and stereotypes it is not necessary to describe their responses to each of the 60 items (that is 15×4 items) individually. By taking into account the pattern of associations between items, it is possible to describe subject's responses more parsimoniously in terms of a small number of

'factors'. Each factor comprises certain items, and the 'factor loading' for each item shows how strongly that item is associated with the factor as a whole.

The analysis took the following form. The initial correlation matrix was subjected in the first instance to a principal components analysis, which produced eight unrotated factors (eigenvectors) accounting for 82.03% of the total variance, with the first two eigenvectors accounting for 66.67% of the common variance (54.69% of the total variance). A range of rotated oblique (Promax) solutions was then produced, ranging from an eight factor to a two factor solution. The two factor solution was selected, and comparisons between criterion groups made on the basis of factor scores. Factor scores were standardised with mean of 0 and unit standard deviation.

Two main factors emerged from the analysis, in terms of which subjects' responses could be described. The items comprising the factors, and their associated loadings are given below.

Factor One (Positively associated attributes only shown)

Like to do forbidden things	.82
Rough	.77
Hard	.73
Act on the spur of the moment	.71
Not so good at schoolwork	.62
Not very smart and tidy	.56
Easy going	.55
Interested in the opposite sex	.55
Usually unsuccessful	.53

For the purposes of the present study, the group of items comprising factor one has been given the title 'tough/rebellious'.

Items which make up factor two, with their associated loadings are given below.

Factor Two (positively associated attributes only shown)

Able to attract members of the opposite sex	.81
Have a lot of friends	.71
Attractive	.69
Interested in the opposite sex	.67
Easy going	.62
Relaxed	.59
Happy	.57
Sharp	.56
Usually successful	.47
Smart and tidy	.37
Good at schoolwork	.34

Factor two is given the title 'attractive/sociable'.

It should be remembered that the actual titles placed on factors are subjective and intuitive, though by no means arbitrary. Examination of factor one shows

that the highest loadings are on the whole associated with items which show rejection of authority ('like to do forbidden things') and aggression or 'toughness' ('rough' and 'hard'). The intermediate loadings suggest lack of success, or lack of motivation, in the achievement of what might loosely be termed 'conventional success'. Personal appearance is untidy (it cannot, however, be described as 'lack of concern about personal appearance' as the untidiness may represent a deliberate and conscious rejection of the 'norms' of tidiness and neatness) and there is little success at schoolwork.

Examination of factor two shows that the highest loadings are on attractiveness and number of friends, including the opposite sex. It should be noted that the two moderate loadings of 'interested in the opposite sex' and 'easy going' are also represented in factor one, but at lower levels of associations. The three lowest loadings on factor two are 'usually successful', 'smart and tidy' and 'good at schoolwork'. On factor one, these three items are also represented, but by the *opposite pole of each bi-polar alternative*, meaning that success at schoolwork, neatness, and 'successfulness' are *positively* associated with one factor but *negatively* associated with the other.

The two factors above show the main dimensions in terms of which subjects answered questionnaires 2a, 2b, 6a and 6b. They do not, however, serve to illustrate any differences between the four questionnaires, nor between the different interpersonal perceptions of different categories of drinker as defined by the drinking index (see Appendix 1). It is possible to look at the performance of different specific groups, however, by means of factor scores. This technique derives a mean score for any sub-group selected, based on the scores of that group on items comprising the various factors. In the present context, therefore, any sub-group can be given a score on the 'tough/rebellious' and the 'attractive/sociable' factors described above.

In order to examine the perception of 'the teenager who drinks heavily', factor scores were computed for questionnaire 6a. Scores were obtained for four categories of drinker; there were abstainers (category one on drinking index), light drinkers (category 2 on D.I.), moderate drinkers (categories 3 and 4 on D.I.), and heavy drinkers (category 5 on D.I.). Separate mean scores were calculated for boys and girls, and for age range 14-15 years, and 16-17 years.

For all age groups, and for both sexes, a strong stereotyped image of the heavy drinker emerges. The figures below represent diagrammatically the scores of the different drinking categories, for each sex/age group, on the two factors described. There are four figures, each comprising four scale-type diagrams. The first figure is concerned with the perception of 'the teenager who drinks heavily', by drinkers and abstainers. The key at the foot of the figure shows how three categories of drinkers, and abstainers, are represented. Each scale diagram shows how 'teenagers who drink heavily' are rated on the two factors of tough/rebellious and attractive/sociable. Ratings for the first factor stand above the line, whilst ratings for the second hang below the line. A separate scale diagram is given for boys and girls, and for two age categories.

In the first scale diagram (Fig. 22), the 'teenager who drinks heavily' is, as expected, seen by all groups as being very tough/rebellious on factor one. However, abstainers (represented by the triangle) see the heavy drinking teenager as more tough and rebellious than do people who are themselves

heavy drinkers (large square). On the other hand, the factor two scores (attractive/sociable) show that the 'teenager who drinks heavily' is seen as being not sociable and not attractive; the heavy drinkers, however, do not see them as quite so lacking in these things as do the abstainers. Interpretation of the other figures proceeds in the same way.

N.B. This method of presenting factor score data is based on an adaption of a technique used by Bynner (1969).

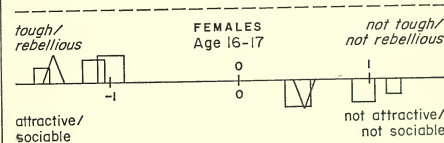
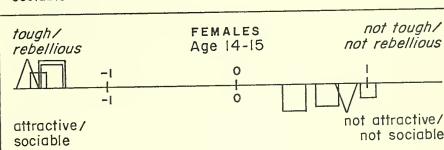
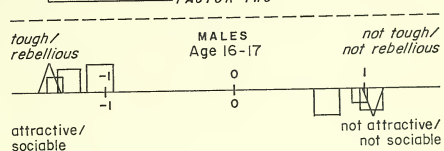
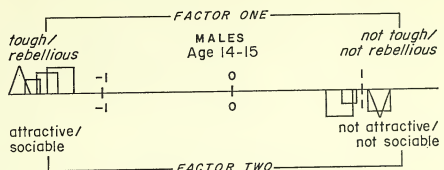
Figure 22 shows, firstly, that a strong stereotype of the heavy drinker as being highly tough/rebellious (factor one) exists for both sexes and both age groups. The tight clustering of the scores on this factor for all categories of drinker suggests that this is a fairly strong and stable stereotype, and shows that whether the adolescent drinks heavily or whether he/she is a complete abstainer has relatively little influence upon his/her perception of the heavy drinker. It should be noted, however, that *small* differences in factor one scores do exist between the three 'drinking' categories, and that light drinkers have a slightly more extreme view than moderate drinkers, who in turn are slightly more extreme than heavy drinkers. This ordering occurs in all age/sex groups.

The perception of the heavy drinker in terms of factor two (attractive/sociable) indicates that on the whole the heavy drinker is seen by all groups as being *unattractive* and *unsociable*. There are different opinions, however, about just how unattractive/unsociable the heavy drinker is. This is apparent from the differences in the dispersion of the points for the different drinking and age/sex groups. It is clear that the stereotype in terms of factor two is less strong for females than for males. This means that the heavy drinker is much more readily labelled unattractive/unsociable by boys than by girls. In addition, there are consistent differences in the extent of this labelling between drinking categories. The light drinkers take up a consistently more extreme position than the heavy drinkers. This ordering is particularly marked for the girls. The main influence of age seems to be a slight shift in the position of the abstainer with increasing age for boys, and a more marked shift for females, away from the 'not attractive/not sociable' end of the scale.

The results from questionnaire 6a (the teenager who drinks heavily) should be examined with reference to those from 6b (the teenager who does not drink) which now follow. It is apparent that the two sets of data represent two contrasting stereotypes.

The main feature of young people's perception of 'the teenager who does not drink' is the high degree of consensus within all drinking and sex/age groups in terms of factor one (tough/rebellious). The non-drinking teenager is seen by all as lacking in toughness and rebelliousness. (It should be noted that in compiling items for inclusion in these questionnaires, alternatives such as 'weak', or 'cissy' were avoided because they are emotive and create resistance. People are much happier describing themselves as 'not so tough' rather than 'weak', or as 'not so good at schoolwork' rather than 'dim'. In the present case, the description of the non-drinker as not being tough or rebellious might be taken as indicating that by drinking one avoids being stigmatised as 'weak', 'yellow' or 'cissy', which are more forthright bi-polar alternatives than those created by the simple interpolation of the word 'not'.) The abstainer generally shares a similar view of the non-drinker, but shows more variability than the other drinking categories.

Fig. 22. Perception of "The Teenager who Drinks Heavily"



ABSTAINERS



LIGHT DRINKERS

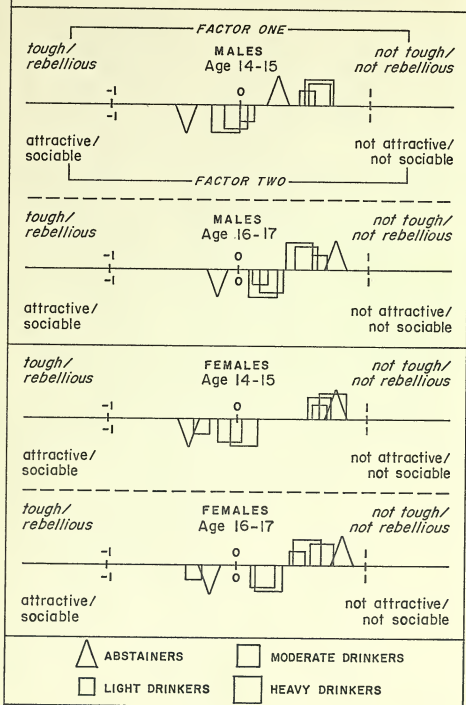


MODERATE DRINKERS



HEAVY DRINKERS

Fig. 23. Perception of "The Teenager who Does Not Drink"



On factor two, the non-drinker is seen on the whole as falling about midway between the poles of attractive/sociable and not attractive/not sociable. For both boys and girls, the abstainer tends to rate the non-drinker as more attractive/sociable than do the other drinking categories.

Two main differences emerge from comparison of the data for the 'heavy drinker' and the 'non-drinker'. Firstly, the two are almost mirror images in terms of factor one (tough/rebellious). The differences in terms of factor two (attractive/sociable) are less extreme. It is apparent, however, that the 'heavy drinker' is seen as being substantially less attractive/sociable than the non-drinker.

The above concludes the presentation of the data on the stereotypes of the 'teenager who drinks heavily' and the 'teenager who does not drink'. Data from questionnaires 2a and 2b are now presented which deal with the actual self and the ideal self respectively (Figs. 24 and 25).

The most striking feature of the data on the perception of the 'actual self' is the regularity of the ordering of the four drinking categories, on both factors. Moving from left to right, subjects' responses are grouped in the order 'heavy drinker', 'moderate drinker', 'light drinker' and 'abstainer', with the sole exception of factor two, for males aged 14-15 years, where 'light drinker' and 'abstainer' are reversed. In terms of factor one, the heavier drinkers see themselves as being more tough/rebellious than the lighter drinkers or the abstainers. This means that, for factor one, subjects rate themselves in terms of the two stereotypes described previously (i.e. heavy drinkers are tough—I am a heavy drinker—therefore I am tough; and conversely, abstainers are not tough—I am an abstainer—therefore I am not tough). However, the ratings in terms of factor one (tough/rebellious) are *much less extreme* in the case of 'the actual self' than in the case of 'the teenager who drinks heavily'. This means simply that though their perceptions of themselves are in the same direction as the stereotype, *they are less extreme*.

The results on factor two are not so straightforward. The ordering of the drinking categories is still apparent, but *the more a person drinks, the more sociable/attractive is his self rating*. Conversely, the abstainer rates himself as being well down this scale, towards the not sociable/not attractive. This is strange, since it does *not* accord with the stereotypes in the way that factor one does. In fact, the stereotypes suggest that the more a person drinks the more he is perceived as not attractive/not sociable. This is exactly the converse of the situation obtaining in the 'actual self' ratings. Subjects are in effect saying, 'Although I think heavy drinkers are on the whole neither sociable nor attractive, I am sociable and attractive even though I drink a lot.' And conversely, 'Although non-drinkers are on the whole sociable and attractive, I am *not* sociable and attractive even though I do not drink.' This discrepancy between the perception of the self, and of others in the same situation, is of particular interest with respect to the motivation of drinking behaviour, and will be referred to in more detail in connection with the next set of data, which deals with the 'ideal self' (Fig. 25).

In terms of 'the kind of person I would like to be', all groups cluster fairly closely towards the not tough/not rebellious end of the scale. Girls, on the whole, desire to be less tough/rebellious (that is, more *not* tough and more *not* rebellious) than do the boys. In addition, the older boys and girls seem less concerned about

Fig. 24. Perception of "The Kind of Person I Actually Am"

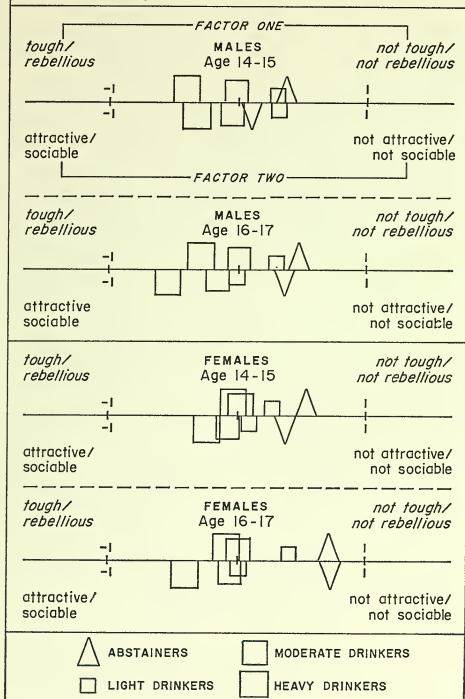
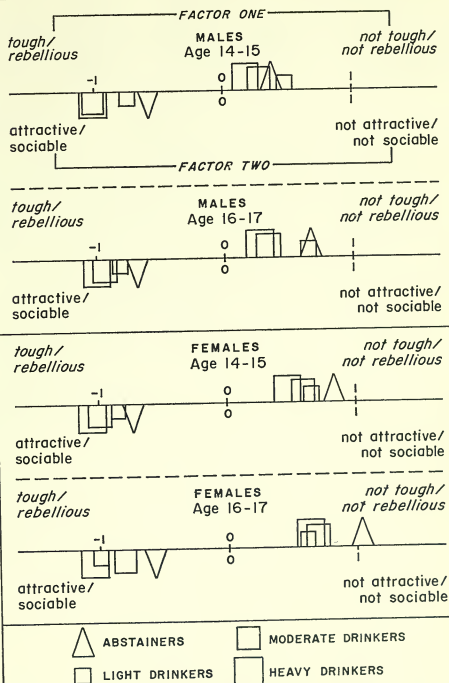


Fig. 25. Perception of "The Kind of Person I Would Like to be"



being tough/rebellious than do the younger ones, as shown by the shift to the right-hand end of the scale with increasing age. Finally, the abstainer and the light drinker take up less tough/rebellious positions than do the moderate and the heavy drinker.

On factor two (attractive/sociable) all groups aspire towards the attractive/sociable end of the scale. Of special interest here is the fact that the heavy drinker *prizes attractiveness/sociability more than does the abstainer*. Summarising, the heavy drinker wants to be more tough/rebellious and more attractive/sociable than does the abstainer. The abstainer wants to be less tough/rebellious and less attractive/sociable than does the heavy drinker. The other drinking categories occupy positions between. In an extreme form, either of these positions would be untenable, since the information on stereotypes shows that 'the heavy drinker' is seen as loading high on tough/rebellious but low on attractive/sociable, whilst 'the teenager who does not drink' receives higher loadings on attractive/sociable but low loadings on tough/rebellious. High or low loadings on *both*, therefore, would place a person in a highly ambivalent position.

Data have been presented dealing with the perception of four persons (namely, the teenager who drinks heavily, the teenager who does not drink, the kind of person I actually am, and the kind of person I would like to be) by four categories of drinker (the abstainer, the light drinker, the moderate drinker, and the heavy drinker). Examination of all four sets of data suggests certain conclusions. Firstly, the scattering of the factor scores on both factors one and two, for 'the kind of person I would like to be' has more in common with 'the teenager who does not drink' than with any other set of data. This has particular significance for the drinkers (as opposed to the abstainers) since it implies that limited drinking will keep them away from the stereotypes apparent in 'the heavy drinker' data, and enable them to achieve a position closer to the ideal.

Secondly, comparison of 'actual self' with 'ideal self' suggests that in terms of the tough/rebellious factor, the abstainer and the light drinker consistently see themselves as being closer to the 'ideal' than the moderate or the heavy drinker.

Conversely, the moderate and heavy drinkers rate themselves as being closer to the 'ideal' in terms of factor two (attractive/sociable) than either the light drinker or the abstainer.

There thus appears to be at least two major sources of motivation. The first can be described as a wish on the part of the moderate and heavy drinkers to become somewhat less tough/rebellious. The second is a desire on the part of the abstainers and light drinkers to become more attractive/sociable. For both groups, therefore, a move to the heavy drinking end of the scale will be a move away from the ideal.

On the other hand, comparison of the 'actual self' and the 'ideal self' shows that the abstainer and the light drinker are a fairly long way from their ideal position in terms of attractiveness/sociability. Also, comparison of the 'ideal self' and 'the teenager who does not drink' shows that the latter is somewhat lacking in attractiveness/sociability. The teenager who does not drink is therefore probably inadequate as a model for the abstainer and light drinker.

Finally, the level of toughness/rebelliousness aspired to by the heavy drinkers in their 'ideal self' is higher than that which they attribute to the non-drinking teenager. The 'teenager who does not drink' is therefore not an adequate model for them either.

Summary

The amount of money which young people have is found to increase as occupational status of the parents becomes lower. In addition, increasing consumption of alcohol appears to be associated with increased spending power. However, the results from Chapter 2 show that drinking increases with age. Because adolescents tend to receive more money as they become older, the relationship between spending power and alcohol consumption could be spurious since both spending power *and* alcohol consumption increase with age. However, analysis of variance shows that the amount of money which young people have available *does* increase with age, but that it also increases *independently* of age as alcohol consumption increases. The relationship between drinking behaviour and amount of money available is therefore not a spurious one. Given the relationships between drinking and pocket money, and between pocket money and occupational status of parents, one might expect drinking behaviour to be related to occupational status of parents. In fact, correlations between drinking behaviour and occupational status of parents are extremely low.

Examination of certain types of group and individual leisure activities and their relationship to drinking and smoking behaviour yields low correlations on the whole. However, there is a tendency for attendance at dances and parties to correlate more highly with increased drinking than certain sporting and youth club activities. Selected individual hobbies (such as collecting 'classical' records, reading) are less highly correlated with drinking behaviour than others. On the whole activities correlated with drinking behaviour are also correlated with smoking behaviour.

Little evidence is found in the present study to support the notion that young members of the Church of Scotland or the Roman Catholic Church have markedly different drinking habits. A small association exists, however, between increasing Church attendance, regardless of denomination, and decreasing alcohol consumption. Subsequent analysis of this association in Chapter 4 suggests that it is not a major factor in teenage drinking behaviour.

Examination of certain aspects of personal and interpersonal perception is made in terms of 'the actual self', 'the ideal self', 'the teenager who drinks heavily' and 'the teenager who does not drink'. Compared with 'the ideal self', the heavy drinking teenager seems to score too highly on a factor of toughness/rebelliousness and too low on a factor of attractiveness/sociability. The teenager who does not drink on the other hand fails to score highly enough on both the toughness/rebelliousness factor and the attractiveness/sociability factor. Comparison of the 'actual' and 'ideal self' suggests that most young people desire to be more attractive/sociable and, with the exception of the abstainer, a little less tough/rebellious. Since the majority of young people drink, it follows, therefore, that although both the heavy drinking and non-drinking teenagers are inadequate models, the heavy drinking teenager is probably the more powerful of the two. More detailed examination shows that the abstainer and the light drinker tend to see themselves as being closer to the 'ideal' in terms of the tough/rebellious factor than the moderate or the heavy drinker. Conversely, the

moderate and heavy drinkers rate themselves as being closer to the 'ideal' in terms of the attractive/sociable factor than either the light drinker or the abstainer. The implication is, therefore, that young people are motivated to drink in order to avoid the stigma of 'weakness' (i.e. lack of toughness/rebelliousness) associated with abstinence, but not to drink so as to conform with the extremely tough, extremely unsociable stereotype of the heavy drinker. This should mean that the pressures are towards moderate drinking. Unfortunately, however, it is clear that the heavy drinkers (drinking index 5) in the present sample tend only to see *other* heavy drinkers in terms of the heavy drinking stereotype and therefore feel no pressures to avoid being so categorized themselves.

CHAPTER 4

Results: Part 3

Part 3 is not concerned with any one aspect of the data, but is an attempt to bring together information from all parts of the questionnaire battery. The aim is to isolate those variables which have the greatest part to play in determining subjects' scores on the five point drinking index described in Appendix 1.

Influences on drinking behaviour.

Descriptions of the survey data obtained from questionnaires 1 and 3, and analytic descriptions of interpersonal perceptions derived from questionnaires 2a, 2b, 6a and 6b have been given in the two previous parts. It remains firstly to examine the data from the attitude and opinion items which make up questionnaires 4 and 5. The results from these latter questionnaires are then incorporated into a multiple correlation analysis, along with data from other questionnaires. The aim is to derive a multi-dimensional description of drinking behaviour, using the five point drinking index as a criterion of alcohol consumption. By bringing together data from the different questionnaires in this way, the drinking behaviour of adolescents can be described in terms of attitudes, opinions and demographic and behavioural variables at one and the same time.

Questionnaires 4, 5 (agree/disagree battery) and 5 (true/false battery) were subjected to a principal components analysis, followed by a range of 6-2 Promax solutions. Questionnaire 4 was a 20 item inventory concerned with attitudes to alcohol. A five factor solution, accounting for 90.84% of the common variance (47.28% of the total variance) was selected. Items, and their associated factor loadings, are given below.

Factor One

It's the boys who drink who get all the girls	.77
Girls who drink get more dates than girls who do not drink	.71
Young people who drink are more attractive than those who don't	.69
Adults only try to stop you drinking because they don't like to see you enjoying yourself	.52
People who drink are usually more friendly than people who don't	.46
There's something mature and manly about boys who drink	.46

With the exception of the fourth item, factor one seems related to success with the opposite sex, and is given the title of *sexual attraction*.

Factor Two

Boys who are caught drinking at school should be severely punished	.77
It's mainly the reckless boys and girls who start drinking regularly while they are still at school	.75
People who drink cause trouble and get into fights fairly often	.48

This factor seems to comprise items which express a critical view of certain drinkers and drinking, and is given the name *critical of drinking*.

Factor Three

Drinking makes you feel more at ease	.86
Drinking can help people when they feel nervous or embarrassed	.80
Drinking makes you feel on top of the world	.68
If you don't go in pubs you are missing a lot of fun	.32

This factor is clearly concerned with the beneficial effects of alcohol, and is given the name *social drinking*.

Factor Four

It's only natural for a man to like his beer	.78
Boys and girls who drink know how to look after themselves	.64
There's something mature and manly about boys who drink	.37

This factor is concerned with stereotyped images of drinkers, and seems to have something in common with the perception of 'the teenager who drinks heavily' described in a previous part. In the present context, this factor is given the name *alcohol myth*.

Factor Five

Drinking alcohol is not dangerous for teenagers	.75
There is nothing wrong with drinking	.63
It worries me that so many grown-ups cannot stop drinking	-.57
The age limit for drinking in public houses should be lowered from 18 to 16 years	.45
Even if you do drink, it's best to try and stay out of pubs	-.41

This factor represents permissiveness towards alcohol consumption and is given the name *pro-drinking*.

Questionnaire 5 is in two parts. The first part concerns general attitudes and opinions towards a variety of topics, and comprises agree/disagree judgements on a five point scale. The second part concerns statements of fact about a variety of personal, possibly sensitive, characteristics, scored on a two category true/false scale. Each of these two parts was analysed separately.

Questionnaire 5 (agree/disagree) comprised fifteen items, for which a four factor solution was selected as being the most meaningful. The four factors accounted for 74.76% of the common variance (43.56% of the total variance). The items comprising the four factors, and their associated loadings, are given below.

Factor One

People with lots of money have the best of everything	.69
The most important thing in the present day is to have lots of money	.68
Universities are full of long-haired layabouts who just don't want to work for a living	.40
It is funny when people get angry or annoyed	.40
Nearly all schoolteachers enjoy making you look small	.39
It is sometimes funny when a person gets injured	.35

The two main items in this factor are concerned with the power of money. The remaining items seem concerned with a suspicion of other people's motives (in this case, particularly students and teachers who can in some sense be regarded as privileged groups), and a lack of sympathy of other people's discomfiture.

The factor is given the name *materialistic/cynical*.

Factor Two

Parents are not strict enough these days	.57
The age limit of 18 years for going in pubs should be increased to 21	.55
People with big houses and expensive cars have no right to own them while there is so much poverty about	.51
Too many parents spoil their children	.49
It is funny when people get angry or annoyed	-.40
It is sometimes funny when a person gets injured	-.32

This factor is given the name *moral/concerned*.

Factor Three

The older generation judges teenagers by their hair and clothes instead of more important things	-.74
The older generation doesn't understand teenagers	-.71
Nearly all schoolteachers enjoy making you look small	-.42
There's one law for the rich and another for the poor	-.40
Universities are full of long-haired layabouts who just don't want to work for a living	.36
Too many parents spoil their children	-.34
The age limit of 18 years for going in pubs should be increased to 21	.31

The defining items for this factor are concerned with stereotyped notions of the generation gap. The remaining items suggest discontent with certain aspects of (adult?) behaviour, but support for younger trends. This factor is given the name *older generation stereotype*.

Factor Four

Despite all the advances of science, religion is the only thing that can explain the more important aspects of life	.82
Nowadays, science often shows religion to be untrue	-.80

This factor is given the name *religious*.

Questionnaire 5 (true/false) comprised 20 items, for which a five factor solution was selected. The five factor solution accounted for 87.6% of the common variance (38.94% of the total variance). The items comprising the five factors, and their associated loadings, are given below.

Factor One

I often feel nervous and tense	.70
I often think that people don't like me	.66
I often feel worried or depressed without any real reason	.64
I become embarrassed when I talk to members of the opposite sex	.56

This factor is given the name *anxious*.

Factor Two

I seem to catch coughs and colds more easily than other people	·67
I seem to be absent from school or college more often than most, due to sickness	·66
I seem to suffer from aches and pains more often than other people	·64
I suffer from asthma	·35

This factor is mainly concerned with proneness to ailments. It seems probable, however, that high scores on this factor at this age would indicate a neurotic state in a majority of cases, rather than a simple objective statement of ill health. The factor is therefore given the tentative name *neurotic illness*.

Factor Three

My father does not take much part in running the house	·81
In our house, my mother makes most of the important decisions	·80
My parents hardly ever give me advice about anything	·33

The first two items make by far the greatest contribution to this factor, which is given the name *maternal dominance*.

Factor Four

I have been in trouble with the police	·59
I wish I was older	·54
When I want to do certain things, my parents often tell me I'm not old enough	·52
I often get into a row with my mother	·39
I have been on probation	·36

This factor indicates conflict with authority, and possibly identification with an older age group. The factor is given the name *trouble/precocity*.

Factor Five

My parents are not strict enough with me	·68
When I was young my parents never gave me a good hiding, even when I did things wrong	·60
I have been on probation	·33
I suffer from asthma	·31
I believe in God	— ·30

This factor seems mainly concerned with a perceived lack of parental strictness. However, the three items with low loadings appear to have little connection with this. It should be pointed out, however, that these latter items do not contribute strongly to the factor and should be interpreted with caution. The factor is given the tentative name, *perceived lack of parental strictness*. This heading is probably the least adequate of all those advanced.

The titles assigned to factors from questionnaires 4 and 5 should be viewed mainly as convenient labels with which to identify the factors. When referring to a factor, therefore, it is important that the composition of that factor, and particularly the defining items, be borne in mind. Unthinking acceptance of

certain of the factor titles could be misleading. In this respect, certain titles are more adequate than others.

By the technique of factor scoring, a mark or score can be obtained on each factor for each of the groups defined by the drinking index. This technique has already been outlined in part two in connection with 'Perception of self and others'. By obtaining factor scores, it is possible to treat each factor as a variable, on which a score can be obtained. The reduction of factors to the status of simple variables permits factors to be evaluated alongside, and simultaneously with, other variables such as age, job classification of father, amount of pocket money and so on. This means that a description can be obtained of some criterion (in this case drinking behaviour) which is not limited to any one type of data but which can include attitudes, opinions and demographic data; and in which the relative importance of each can be assessed.

A multiple correlation was therefore carried out to assess the relative contributions of these different variables. Multiple correlation may be described simply by reference to the correlation coefficient.

A correlation coefficient is normally a measure of association between two variables. The size of the obtained coefficient indicates to what extent we can predict one from the other, or how well we can predict *a* from *b*. In this situation, *a* has only one predictor in *b*. Other things being equal, however, the level of prediction will increase if we have more predictors. Thus, two predictors which individually have only a low level of prediction will *collectively* predict to a greater extent than either of them in isolation. In this instance, we are not merely attempting to predict *a* from *b*, but more attempting to predict *a* from *b* and *c*. The addition of more 'predictor' variables will increase the overall level of prediction still further.

The first stage in the computation of the multiple correlation involved the selection of those variables to be included in the computation. This stage is of paramount importance, since the usefulness of the statistic is limited by the choice of variables. If the items selected are unimportant or irrelevant the computation will simply help to pinpoint the 'best of a bad lot', and the value of the multiple correlation coefficient will be low. In the present study, variables were selected in the following way. Firstly, the factors from questions 4, 5 (agree/disagree) and 5 (true/false) were included. Since no independent data on the discrimination of these factors was available, there was no basis for discarding any of them. The remaining items are drawn from the more straightforward questionnaires, 1 and 3. (Questionnaires 2a, 2b, 6a and 6b are not included in this analysis, since the results from these are used in the completely separate analysis described in Part 2). Items were selected from questionnaires 1 and 3 if they had yielded significant and/or informative results in their own right. Altogether, thirty items were selected for the multiple correlation analysis, in the first instance. The items selected are listed below:—

1. How old are you? (Q. 1.1).
2. How much money, to spend or save, do you receive each week? (Q. 1.8).
3. About how much of your money do you save each week? (Q. 1.9iii).
4. Social status (based on occupation). (Q. 1.10 and 1.11).
5. What do your parents think of young people under 18 years old who drink? (Q. 3.27).

6. About how often do you go to Church, or some other place of worship? (Q. 3.27).
7. Imagine you have gone out somewhere with your friends . . . about how many of your friends would have an alcoholic drink? (Q. 3.27).
8. How old were you when you had your first taste of alcohol? (Q. 3.12)
9. Do you have any older brothers or sisters who drink? (Q. 3.29).
10. How often do you go to a party? (Q. 1.5ix)
11. How often do you go to a dance? (Q. 1.5x).
12. How often do you stay at home all evening with the family? (Q. 1.5iv).
13. About how often would you say you had an alcoholic drink? (Q. 3.30).
14. Have you received any information, or had any lessons or discussions about alcohol and drinking, whilst you were at school or college? (Q. 3.9a).
15. About how many cigarettes do you smoke now? (Q. 1.12).
16. Does your mother go out to work? (Q. 1.12).
17. Factor 1/4 'sexual attraction'.
18. Factor 2/4 'critical of drinking'.
19. Factor 3/4 'social drinking'.
20. Factor 4/4 'alcohol myth'.
21. Factor 5/4 'pro-drinking'.
22. Factor 1/5 (agree/disagree) 'materialistic/cynical'.
23. Factor 2/5 (agree/disagree) 'moral/concerned'.
24. Factor 3/5 (agree/disagree) 'older generation stereotype'.
25. Factor 4/5 (agree/disagree) 'religious'.
26. Factor 1/5 (true/false) 'anxious'.
27. Factor 2/5 (true/false) 'neurotic illness'.
28. Factor 3/5 (true/false) 'maternal dominance'.
29. Factor 4/5 (true/false) 'trouble/precocity'.
30. Factor 5/5 (true/false) 'perceived lack of parental strictness'.

The criterion variable for the multiple correlation is the five point drinking index described in Appendix 1. Before the multiple correlation is reported, the *individual* correlation of each variable with the drinking index is reported in Table 17. These are simple correlations and *not* multiple correlations. Separate coefficients are given for each sex. Also, the signs associated with the coefficients have been rationalised so that positive figures show an association between the drinking index and an *increase* in the particular variable in question. Negative coefficients show an association between drinking index and a *decrease* in the variable in question. For example, the number of cigarettes smoked (variable 15) increases as drinking increases. On the other hand, the amount of pocket money saved (variable 3) decreases as drinking increases.

From Table 17 it is possible to identify those variables which have the highest simple correlations with drinking index. Variable 13, which concerns frequency of drinking, has the highest single correlation, and since the data for this variable is completely independent of all data involved in the calculation of the drinking index, it serves as a validity check on the latter. In addition to its function as a validity check, the variable also provided 'real' data, since the heaviest drinkers

Table 17. Correlations between variables used in the multiple *r* and drinking index—Males, Females

	Males	Females
1. How old are you? (Q. 1.1)	·12	·01
2. How much money . . . do you receive each week? (Q. 1.8)	·28	·14
3. About how much of your money do you save each week? (Q. 1.9 iii)	—·21	—·08
4. Social status (based on occupation) (Q. 1.10 and 1.11)	·11	—·01
5. What do your parents think of young people . . . who drink? (Q. 3.27)	·02	—·06
6. About how often do you go to Church . . . ? (Q. 1.15)	—·19	—·19
7. . . . about how many of your friends . . . have an alcoholic drink? (Q. 3.10)	·41	·40
8. How old were you when you had your first taste of alcohol? (Q. 3.12)	·20	·31
9. Do you have any older brothers or sisters who drink? (Q. 3.29)	·19	·18
10. How often do you go to a party? (Q. 1.5ix)	·34	·25
11. How often do you go to a dance? (Q. 1.5x)	·35	·23
12. How often do you stay at home . . . ? (Q. 1.5iv)	—·27	—·15
13. About how often . . . an alcoholic drink? (Q. 3.30)	·43	·42
14. Have you received any information . . . about alcohol . . . ? (Q. 3.9a)	—·13	—·01
15. About how many cigarettes do you smoke now? (Q. 3.4)	·38	·29
16. Does your mother go out to work? (Q. 1.12)	·02	·07
17. Factor 1/4 'sexual attraction'	·18	·11
18. Factor 2/4 'critical of drinking'	—·22	—·21
19. Factor 3/4 'social drinking'	·27	·28
20. Factor 4/4 'alcohol myth'	·28	·26
21. Factor 5/4 'pro-drinking'	·21	·21
22. Factor 1/5 (agree/disagree) 'materialistic/cynical'	·19	·01
23. Factor 2/5 (agree/disagree) 'moral/concerned'	—·17	—·22
24. Factor 3/5 (agree/disagree) 'older generation stereotype'	·23	·27
25. Factor 4/5 (agree/disagree) 'religious'	—·10	—·10
26. Factor 1/5 (true/false) 'anxious'	—·10	·03
27. Factor 2/5 (true/false) 'neurotic illness'	—·01	·04
28. Factor 3/5 (true/false) 'maternal dominance'	·06	·03
29. Factor 4/5 (true/false) 'trouble/precocity'	·25	·15
30. Factor 5/5 (true/false) 'perceived lack of parental strictness'	·03	·03

did not necessarily have to be the most frequent in terms of number of drinking occasions.

The second highest coefficient comes from variable 7, which concerns the number of drinking friends a young person has. The direction of the association shows that drinking increases as the number of drinking friends increases. The number of cigarettes smoked (variable 15) also has a high association with the drinking index. Finally attendance at dances and parties also seems to be important.

From the various factors in the analysis (that is, variables 17 to 30) the best predictor appears to be factor 4/4 'alcohol myth', which comprises the items:—

- (i) it's only natural for a man to like his beer
- (ii) boys and girls who drink know how to look after themselves
- (iii) there's something mature and manly about boys who drink.

This group of items seems to have a fairly close connection with the stereotyped perception of the heavy drinker described in Part 2, and further suggests that such beliefs are an important influence upon drinking behaviour. Finally, it is worthwhile mentioning that in Bynner's (1969) study of schoolboys' smoking, 'number of friends who smoke' and 'anticipation of adulthood' were pinpointed as two major influences upon the extent of schoolboy smoking. These variables, or variables very like them, seem to be prominent in the present study. The point is repeated, therefore, that adolescent drinking and smoking are similar in many ways.

The results of the multiple correlation are shown in Tables 18 and 19. It will be noted that the size of the multiple r increases as each variable is added. Each additional variable, however, makes a progressively smaller difference to the size of the coefficient, so that beyond a certain level a kind of 'law of diminishing returns' sets in, and then no more variables are added. The table also gives beta coefficients, which can with caution be used in interpreting the results. Beta coefficients are 'weights' attached to each variable which can give some statistical indication of their relative importance. (They should not be accepted uncritically, however, since there are instances in which they may be misleading.) In the present example, confidence in the beta coefficients is increased, since the 'weights' show that the same four variables have the greatest importance for both males and females, even though these were analysed quite independently.

The two multiple correlation tables show the first nine variables for males and females. These yield coefficients of .62 for males and .57 for females. This indicates that the level of prediction is slightly higher for the nine variables which appear in the 'male' table than for those which appear in the 'female' table. The lists of variables which appear in the two tables are not identical, though there are common items. This means that drinking behaviour (as measured by the drinking index) is predicted best by a different set of variables for each sex.

The multiple correlation included, in the first instance, all thirty variables. However, as indicated at the foot of Tables 18 and 19, the first nine variables account for most of the association. The addition of the remaining twenty-one variables makes a negligible or, at best, marginal improvement in the size of the coefficients. For both sexes, the following variables appear to be the most

Table 18. Results of the multiple r between selected variables and drinking behaviour—*Males*

Multiple correlation for first nine variables

	Multiple r	Beta coefficients
13. About how often would you say you had an alcoholic drink?	.43	.19
15. About how many cigarettes do you smoke now?	.49	.15
7. Imagine you have gone out somewhere with your friends. About how many of your friends would have an alcoholic drink?	.53	.19
20. Factor 4/4 'alcohol myth'	.56	.10
8. How old were you when you had your first taste of alcohol?	.57	.16
29. Factor 4/5 (true/false) 'trouble/precocity'	.59	.13
11. How often do you go to a dance?	.60	.14
4. Social status (based on occupation)	.61	.11
22. Factor 1/5 (agree/disagree) 'materialistic/cynical'	.62	.08

The addition of the remaining twentyone variables raises multiple r from .62 to .64.

Table 19. Results of multiple r between selected variables and drinking behaviour—*Females*

Multiple correlation for first nine variables

	Multiple r	Beta coefficients
13. About how often would you say you had an alcoholic drink?	.42	.21
8. How old were you when you had your first taste of alcohol?	.49	.25
7. Imagine you have gone out somewhere with your friends. About how many of your friends would have an alcoholic drink?	.53	.19
15. About how many cigarettes do you smoke now?	.55	.10
20. Factor 4/4 'alcohol myth'	.55	.07
1. How old are you?	.56	.08
19. Factor 3/4 'social drinking'	.56	.07
22. Factor 1/5 (agree/disagree) 'materialistic/cynical'	.57	.07
23. Factor 2/5 (agree/disagree) 'moral/concerned'	.57	.07

The addition of the remaining twentyone variables raises the multiple r from .57 to .59

important in discriminating between light or heavy drinking, as measured on the five point drinking index:—

- frequency of drinking (variable 13)
- age at which alcohol was first tasted (variable 8)
- number of friends who drink (variable 7)
- number of cigarettes smoked (variable 15)

The beta coefficients indicate that these are the most important contributors to the multiple correlation, though the order in which these occur is not the same. For males, the order is, variables 13, 7, 8 and 15. For females the order is 8, 13, 7, 15. It is probably safest not to attach too much significance to these differences of order and conclude more parsimoniously that the same four variables are of major importance in both analyses.

In addition to the four variables previously listed, the results for males and females have two of the factor solution in common. These are factor 4/4 'alcohol myth' and factor 1/5 'materialistic/cynical'. Factor 4/4 comprises the following items:—

- (i) it is only natural for a man to like his beer
- (ii) boys and girls who drink know how to look after themselves
- (iii) there's something mature and manly about boys who drink.

High scores on this factor are associated with high scores on the drinking index. Referring back to Part 2 and the 'perception of self and others', it is apparent that though the heavy drinkers do not see themselves in terms of their stereotyped perceptions of heavy drinkers, (they do not see themselves as 'typical heavy drinkers') they nonetheless possess certain views, expressed in factor 4/4, which become less common lower down the drinking scale. In a sense, the 'alcohol myth' can be seen as a practical demonstration of the 'heavy drinker' stereotype at work.

Factor 1/5 'materialistic/cynical' contains the following items:—

- (i) people with lots of money have the best of everything
- (ii) the most important thing in the present day is to have lots of money
- (iii) universities are full of long-haired layabouts who just don't want to work for a living
- (iv) it is funny when people get angry or annoyed
- (v) nearly all schoolteachers enjoy making you look small
- (vi) it is sometimes funny when a person gets injured.

High scores on this factor are again associated with increasing consumption of alcohol. The significance of this factor (in a non-statistical sense) is a little difficult to assess, since it could be that the views expressed are more related to membership of an under-privileged section of society than to drinking behaviour, and its relationship to drinking behaviour is simply due to the small correlation between parental occupational status and drinking behaviour. This does not seem likely, however, since the correlation between parental occupational status

and factor 1/5 'materialistic/cynical' is very low ($r=.09$). However, if drinking serves as a form of rebelliousness for many young people (in Part 2, the association between heavy drinking stereotypes and 'toughness/rebelliousness' has already been demonstrated) then a relationship between drinking behaviour and the general tone of dissatisfaction expressed in factor 1/5 might be expected.

The remaining variables in the multiple correlation are specific to either males or females. For the males, parents' occupational status, attendance at dances, and factor 4/5 (true/false) 'trouble/precocity' are of importance. For the females, factor 2/5 (agree/disagree) 'moral/concerned', factor 3/4 'social drinking', and age are of importance.

Factor 4/5 (true/false) contains items which indicate that the high scorer has probably had some conflict with the forces of the law. These items are 'I have been in trouble with the police' and 'I have been on probation'. There is the suggestion, therefore, that heavy drinking amongst boys has an association with behaviour which may be loosely termed 'delinquent'; this is less apparent for girls. However, the fact that an association between two variables exists does not show that there is a causal link. The most likely explanation is that heavy drinking simply represents one further way in which the young delinquent can express his disregard for conventional norms. Attendance at dances and parental occupational status also add more detail to the emerging sketch of the young, male, heavy drinker. Finally, the fact that age is of importance only to the females suggests that between the ages of 14 and 17 years variations in the amounts of alcohol consumed by boys are likely to be influenced by factors other than age. For girls, age should be a more reliable guide to drinking behaviour. However, the drinking behaviour of girls also seems to be more influenced by attitudinal variables, as suggested by the 'moral/concerned' and 'social drinking' factors (factors 2/5 agree/disagree, and 3/4).

Hierarchical Interactive Tree Structure Analysis

The final section of Part 3 concerns the further analysis of the data, using the technique of Hierarchical Interactive Tree Structure (H.I.T.S.)*. The aim is to carry the results of the multiple correlation to a logical conclusion by attempting to describe different categories of drinker. The main difference between the multiple correlation and the H.I.T.S. analysis is as follows: The multiple correlation shows which variables best predict the distribution of subjects *over all* the five drinking categories defined by the drinking index. The H.I.T.S. analysis attempts to describe *particular* categories of drinking in terms of the variables most salient to that category.

A number of possible different solutions with differing numbers of categories is available. However, the easiest starting point is the five group solution, since this bears the most obvious resemblance to the five categories defined by the drinking index. Examination of the data reveals that interpretation must proceed with caution. The sample of people used in the study is likely to be a heterogeneous one in which various attributes are continuously distributed. It is probably erroneous, therefore, to assume that the results of the analysis demon-

*The H.I.T.S. programme is the property of, and has been developed by, Cybernetics Research Consultants Limited, London. Thanks are due to Barry Quirke for making the analysis available and for carrying out computational work. A full description of the method is given in Appendix 2.

strate that the sample is in fact made up of a series of completely disparate groups. What they do show is that variables distributed throughout the sample are of greater salience for some groups of people than for others. Categories or groups, whether defined by drinking index or H.I.T.S., are not *real* in a strict sense, but are convenient labels.

In Table 20, variables are listed down the left-hand side. The columns to the right then show in which group each variable occurs as one of the ten most important. Numbers in brackets indicate the order of importance of each variable in each group. The effect, in simple terms, is to provide a sort of 'portrait' of people falling in each drinking category.

Table 20 provides the five group H.I.T.S. solution for males only. A similar five group solution for females is provided in Table 21.

The five groups described in Table 20 are equivalent to the five drinking categories of the drinking index, and range from the abstainer (group 1) to the heavy drinker (group 5). The signs are rationalised so that positive indicates a high score, and negative indicates a low score. Finally, it should be remembered that empty cells do not mean that a variable is irrelevant for a particular group, but merely that it is not one of the ten most important.

The results of the H.I.T.S. analysis are now described below. Each category is treated individually, in an attempt to give a 'thumb-nail' sketch of each drinking type. Whilst every attempt is made not to go beyond the bounds of the data itself, a certain amount of speculation by both the reader and the authors is probably an inevitable concomitant.

The abstainer (Group 1)

This group is characterised by high scores on the 'religious' factor, by high Church attendance, and by low scores on the 'pro-drinking' factor. (The 'pro-drinking' factor suggests that if people want to drink, then it is all right to let them do so.) The prominence given to religion in this group, relative to the others, should not be misinterpreted, however. The abstinent group contains only 33 members, and the salience of religious behaviour is confined to this group alone. It is worth while remembering that 503 subjects expressed a degree of religious affiliation, and that these are scattered throughout all the drinking categories. The conclusion is that whilst religious behaviour is a salient characteristic of abstainers, it is of minor importance amongst drinkers, *including religious drinkers*. The multiple correlation reported previously confirms this result by failing to select any religious item as a good predictor.

The abstinent group is also characterised by high scores on the 'moral/concerned' factor, low scores on the 'social drinking' factor, and low scores on the 'older generation stereotype' factor. Thus, the attitudes of the abstainer are oriented towards belief in the virtues of discipline and increased, rather than reduced, control of alcohol use; strong disagreement with any point of view expressing the virtues of alcohol; and identification with, rather than alienation from, certain conventional norms often attributed to the older generation.

The abstainer seldom frequents dances or parties, and his friends are on the whole also abstainers. In a sense, therefore, the abstainer does not participate in what are normal social activities for many members of his age group.

Table 20. Results of Hierarchical Interactive Tree Structure Analysis for selected variables—*Males*

Five group H.I.T.S. solution (showing ten most salient variables in each group)

	Group 1	Group 2	Group 3	Group 4	Group 5
21. Factor 5/4 'pro-drinking'	(3)−				
22. Factor 4/5 'religious'	(7)+				
6. About how often do you go to Church . . . ?	(6)+				
18. Factor 2/4 'critical of drinking'		(9)+			
17. Factor 1/4 'sexual attraction'			(8)−		
14. . . . have you received any information about alcohol?			(2)−		
23. Factor 2/5 'moral/concerned'	(4)+			(9)−	
15. . . . how many cigarettes do you smoke?		(3)−	(5)−		(1)+
19. Factor 3/4 'social drinking'	(8)−	(10)−	(4)−	(2)+	(7)+
13. About how often . . . an alcoholic drink?	(1)−	(4)−	(7)−	(8)+	(2)+
7. About how many of your friends . . . drink?	(2)−	(1)−		(1)+	(4)+
10. How often do you go to a party?	(5)−	(6)−	(9)−	(7)+	(3)+
11. How often do you go to a dance?	(9)−	(2)−		(3)+	(5)+
12. How often do you stay at home . . . ?		(8)+	(3)+	(10)−	(8)−
29. Factor 4/5 'trouble/precocity'		(5)−			(9)+
24. Factor 3/5 'older generation stereotype'	(10)−	(7)−		(5)+	
9. Do you have any older brothers/sisters who drink?			(10)−		
3. About how much money do you save . . . ?			(1)+	(4)−	
20. Factor 4/4 'alcohol myth'			(6)−	(6)+	(10)+
2. How much money do you receive each week?					(6)+

Numbers indicate the order of importance of each variable in each group. Signs show whether scores are above or below the sample mean.

* The occasional drinker (Group 2)

In many respects, the occasional drinker resembles the abstainer. However, religious belief and Church attendance are of much less significance for the occasional drinker. The attitudes of the occasional drinker bear a superficial resemblance to those of the abstainer, in so far as they have two types of attitude in common, namely low scores on the 'older generation stereotype' and 'social drinking' factors. Examination of the scores, however, shows that the views of the occasional drinker on both these factors are rather less extreme than the views of the abstainers. Similarly, although they attend dances and parties less often, and have fewer drinking friends, than the average for the sample as a whole, they nonetheless attend dances and parties more often than abstainers, and are *very much more likely* to have drinking friends.

The occasional drinker believes that alcohol can have harmful effects on people (factor 2/4), and has low scores on the 'trouble/precocity' factor. He smokes less than the average number of cigarettes, and stays at home in the evening more often than the average.

The difference between the abstainer and the occasional drinker is in many ways one of degree rather than kind. However, there are major differences in the importance of *religion*, and in the number of *friends who drink*.

* The light drinker (Group 3)

In certain respects, the difference between the light drinker and the occasional drinker is again one of degree rather than of kind. The light drinker smokes less cigarettes than the average, attends parties less frequently than average, and has low scores on factor 3/4 'social drinking'. However, the light drinker attends parties more frequently, smokes more cigarettes and has a less extreme attitude towards drinking, than either the abstainer or the occasional drinker.

The light drinker has low scores on both the 'alcohol myth' factor and the 'sexual attraction' factor (factors 4/4 and 1/4 respectively), suggesting that the light drinker is less likely to accept certain stereotypes and prejudices about alcohol. These things are of more salience for the light drinking group than for any other. In addition, the light drinker *saves more money* than any other group.

Finally, there is one enigmatic finding, in that the light drinking group has received less information than any other group about the effects of alcohol. This is difficult to interpret, since the overall information level is low, and the quality and nature of the information impossible to evaluate.

* The moderate drinker (Group 4)

The moderate drinker is contrasted with the previous categories by having low scores on the 'moral/concerned' factor (factor 2/5) and above average scores on the 'social drinking' (3/4), 'alcohol myth' (4/4) and 'older generation stereotype' (3/5) factors. Attendance at dances and parties is more frequent, and staying at home in the evenings less frequent, than for the previous groups.

The moderate drinker drinks more frequently, and has more friends who drink, than any of the groups previously described. His/her savings are below average.

The heavy drinker (Group 5)

Scores on the 'social drinking' and 'alcohol myth' factors are above average; attendance at parties and dances is well above average, and staying at home in the evening below average. Number of friends who drink and frequency of drinking is again high. On all these variables, scores are consistently more extreme than for the moderate drinker. Scores on the 'older generation stereotype' factor (3/5) are also the highest for any group, though this is not one of the ten most important variables for the heavy drinker. The figures suggest that the heavy drinker is also an inveterate smoker.

The heavy drinker is unique, however, with respect to the amount of money received and the 'trouble/precocity' factor (4/5). He receives, from whatever source, more money than any other group, and also has the highest scores on a factor which includes certain possible indicators of delinquent behaviour (e.g. 'I have been in trouble with the police' and 'I have been on probation'). The analysis suggests that these are important characteristics of the group 5 (heavy) drinker, but not important characteristics of any other group.

The analysis reported for the boys was repeated for the girls. Once again, the *first ten* most salient variables for each of the five groups are given. Table 21 gives the five group H.I.T.S. solution.

The five group H.I.T.S. solution for the girls is described in the same way as that for the boys. Once again, signs have been rationalised so that positive indicates a high score, and negative a low score, on the particular variable in question. The same comments on interpretation of the empty cells apply.

The abstainer (Group 1)

The importance of the number of drinking friends in predicting how much the individual herself drinks is again clearly evident *through all groups*. This is very similar to the boys' results. However, the girl abstainer is also characterised by being younger than the girl who does drink. Within the age range tested (14 to 17 years), age is less important for the boys.

Pocket money is below average, and attendance at dances is rare. Scores on the 'social drinking' factor and the 'older generation stereotype' factor are low, showing that the girl abstainer tends to have few positive feelings about alcohol and few negative feelings about the older generation. Scores on the 'religious' factor and the 'moral/concerned' factor are high. Since this abstaining group constitutes only 42 individuals, whilst there are 365 girls expressing some religious commitment, the comments made about the boys' analysis bear repeating here. Namely, that religious belief may be a salient characteristic of abstainers, but that persons with religious convictions are not characteristically abstinent. Church attendance does not emerge as an important characteristic of abstinent girls, but reference to the preceding analysis shows that Church attendance *is* an important characteristic of abstinent boys. This suggests that Church attendance is a better predictor of abstinence for the boys than for the girls.

The occasional drinker (Group 2)

The occasional drinker resembles the abstainer with regard to the number of drinking friends, and the 'older generation stereotype' and 'social drinking' factors. In fact, together with frequency of drinking, these three variables emerge

Table 21. Results of Hierarchical Interactive Tree Structure Analysis for selected variables—*Females*

Five group H.I.T.S. solution (showing ten most salient variables in each group)

	Group 1	Group 2	Group 3	Group 4	Group 5
1. How old are you?	(6)–				
2. How much money do you receive each week?	(8)–				
15. . . . how many cigarettes do you smoke . . . ?		(5)–			(1)+
6. About how often do you go to Church?			(5)–		
11. How often do you go to a dance?	(7)–			(5)+	
7. About how many of your friends drink?	(1)–	(4)–	(2)+	(2)+	(6)+
24. Factor 3/5 'older generation stereotype'	(2)–	(8)–	(1)+	(9)+	(9)+
13. About how often . . . an alcoholic drink?	(3)–	(1)–	(6)+	(1)+	(3)+
19. Factor 3/4 'social drinking'	(9)–	(3)–	(8)+	(7)+	(2)+
25. Factor 4/5 'religious'	(5)+		(9)–		
23. Factor 2/5 'moral concerned'	(4)+		(10)–	(3)–	
18. Factor 2/4 'critical of drinking'		(7)+	(7)–	(6)–	
5. What do your parents think of young people who drink?			(4)+		
10. How often do you go to a party?		(9)–		(4)+	
12. How often do you stay at home?		(10)+		(10)–	
9. Do you have any older brothers/sisters who drink?	(10)–				(10)+
20. Factor 4/4 'alcohol myth'		(2)–	(3)+		(5)+
21. Factor 5/4 'pro-drinking'		(6)–		(8)+	(7)+
29. Factor 4/5 (true/false) 'trouble/precocity'					(4)+
30. Factor 5/5 (true/false) 'perceived lack of parental strictness'					(8)–

Numbers indicate the order of importance of each variable in each group. Signs show whether scores are above or below the sample mean.

as important in all the categories of the H.I.T.S. analysis. The occasional drinker is also an occasional smoker. In fact, extremely low levels of smoking are more characteristic of this group than of the abstainers, though the level of smoking is low in both groups. Attendance at parties is infrequent, and staying at home in the evenings common. There are high scores on the 'critical of drinking' factor, and low scores on the 'alcohol myth' and 'pro-drinking' factors.

The light drinker (Group 3)

The light drinker has more drinking friends than girls in either of the two previous categories. Scores on the 'older generation stereotype', 'social drinking', and 'alcohol myth' factors are higher, whilst scores on the 'moral/concerned' and 'critical of drinking' and 'religious' factors are lower. Infrequent Church attendance also emerges as an important characteristic.

The attitudes of parents towards teenage drinking are most interesting for this group. The parents of light drinkers have favourable attitudes towards young people who drink; so do the parents of 'moderate drinkers' (group 4), though less so. *Parents of girls in all the other groups have negative attitudes towards teenagers who drink.* Also, the abstainers' parents have the most negative attitudes towards teenage drinking and the *parents of the heavy drinkers have the next most extreme negative views.* Therefore in some way, the abstainers may resemble the heavy drinkers in having parents with negative views on teenage drinking. As a final note on this point, the results from the boys' H.I.T.S. analysis show a similar pattern, in that the two groups whose parents have the most extreme negative attitudes towards teenage drinking are again the abstainers and the heavy drinkers; though this variable does not emerge as one of the ten most salient for any group in the boys' analysis.

The moderate drinker (Group 4)

The moderate drinker resembles the light drinker in having positive scores on the 'social drinking' and 'older generation stereotype' factors, and negative scores on the 'moral/concerned' and 'critical of drinking' factors, though scores are on the whole a little more extreme. In addition, there are above average scores on the 'pro-drinking' factor. Attendance at dances and parties is frequent, whilst staying at home is a fairly uncommon occurrence. As with all other categories, frequency of drinking, and the number of friends who drink, emerge as important variables.

The heavy drinker (Group 5)

The heavy drinker tends to have the highest scores on the 'older generation stereotype', 'social drinking', 'alcohol myth' and 'pro-drinking' factors. This means that there is probably a tendency to see the older generation as being at best 'stuffy' and at worst threatening. Attitudes to alcohol and drinking are on the whole positive, coupled with a more general belief that 'there is nothing wrong with drinking'. There is also the belief that 'drinking makes you tough' or, more probably for the girls, provides evidence of 'maturity'. Cigarette smoking in this group is very high, suggesting once again that alcohol and cigarettes may serve very similar functions for certain teenagers.

As with other groups, frequency of drinking and the number of friends who drink are important variables. This group, however, is unique in having high

loadings on the 'trouble/precocity' factor and 'perceived lack of parental strictness' factor. The 'trouble/precocity' factor may give a possible indication of delinquent behaviour, and it is interesting to note that this apparent association between scores on this factor and the heavy drinker is the same for both the boys and the girls. Finally, the high *negative* scores on the 'perceived lack of parental strictness' factor suggests that the parents of heavy drinking girls are *not* seen as lacking in the administration of discipline, but rather the opposite.

As a final note on the H.I.T.S. analysis, it is worthwhile comparing the results from the boys' and girls' analyses, as displayed in Tables 20 and 21. Examination of the boys' results shows that the most striking changes in the signs associated with each variable occur between group 3 (the light drinker) and group 4 (the moderate drinker). Between these two groups there is a tendency for signs to change from positive to negative, on a great many variables. For the girls, however, this 'change over' region appears to come between groups 2 and 3. This is probably due to the fact that girls on the whole drink less than boys, so that in some way a given amount of alcohol, consumed by a girl, is equivalent (in terms of scores on the variables used) to a greater amount consumed by a boy. In other words, to become a heavy drinker in terms of attitudes and beliefs for example, a girl does not necessarily have to drink as much as her male counterpart.

The subjective impression gained from examining the tables in the above way is validated by the two group H.I.T.S. solution for both boys and girls. In the boys' analysis, the two group solution defines groups containing 55.8% and 44.2% of the sample respectively. In terms of the dependent variable (drinking index) these two groups have means of 2.38 and 4.62 respectively. The two group solution for the girls defines groups containing 47.6% and 52.4% of the sample respectively, with means in terms of the dependent variable of 1.83 and 3.57.

Summary

Chapter 4 endeavours to bring together various different types of data (including demographic, behavioural and attitudinal variables) in an attempt to provide an overall description of adolescent drinkers and drinking. In the first instance a multiple correlation analysis was carried out for boys and girls, separately. This showed that frequency of drinking, number of cigarettes smoked, number of friends who drink, and age of first taste of alcohol, were important predictors of present alcohol consumption for both boys and girls. In addition, scores on an 'alcohol myth' factor and a 'materialistic/cynical' factor also emerged as important variables for both sexes. Although 30 variables were included in this analysis the greatest contribution was made by the first 9.

The chapter concludes with a H.I.T.S. analysis in an effort to provide a brief 'thumb-nail' sketch for each category of drinker. Separate analyses were again performed for each sex. The 10 most important variables are given for each drinking category. Scores on all variables show consistent and progressive changes between the 5 categories provided. Perhaps surprisingly, however, certain similarities emerge between the heavy drinker and the abstainer, involving perceived parental attitudes to teenage drinking and extent of parental discipline. Comparing both the multiple *r* and H.I.T.S. analyses, the number of friends who drink, number of cigarettes smoked, and belief in certain 'mythical' qualities of alcohol, emerge with great consistency.

CHAPTER 5

Adolescent Drinking and Health Education

Discussion

The present study shows that most adolescents in Glasgow are introduced to alcohol whilst they are still children, and that the majority of them receive their first taste of alcohol from their parents. After parents, boys and girls of the same age are the most frequent source of the first drink. The data also suggest that by age 14, the great majority of young people have at least some experience of alcohol. Forty-seven per cent of all 14 year old drinkers in the present sample reported having consumed alcohol in a place other than someone's home, which suggests that drinking is not necessarily confined to special occasions in the parental home. In addition, parents or adults are not the main providers of alcohol in situations outside the home, so that much under-age drinking may be unsupervised. By age 17, the number of young people who do not drink at some time is very small, and drinking in public houses is common, especially amongst the boys. The main point, however, is that young people have to move from a childhood culture which, at the start, is abstinent, into an adult culture with a drinking norm. This is a gradual process, and some type of anticipatory socialisation involving alcohol is therefore to be expected.

One of the most interesting points to emerge from the first part of the Results section (see Chapter 2) is the relationship between drinking in the open air and age. It appears that open air drinking is most common amongst the 14 year olds in the present sample, and least common amongst the 17 year olds. The implication is that a good many teenagers learn to drink alcohol in situations which are remote from adult influence, and in which alcohol consumption is associated with secrecy and subterfuge. Such associations may well be carried into adulthood and influence later attitudes to drinking and alcohol. It is possible that the age limit of 18 years, by preventing young teenagers from drinking in public, forces them to drink in clandestine situations. There is some evidence to suggest that drinking in such situations may be associated with problem drinking, or anti-social behaviour of a more general kind (Mackay, 1961; Bruun and Hauge, 1963).

The findings with respect to peer group influence, and to the incidence of drinking in various situations (i.e. the parental home, the home of a friend, outside the home, etc.) parallel very closely reports from other countries. In particular, Mandell *et al.* (1962), in a study of youthful drinking behaviour in New York State, writes:

"Drinking alcohol beverages seems to be a peer group activity. The frequency and amounts consumed are related to the companions one has while drinking. The legal age for drinking does seem to influence the place where alcohol is reported as being consumed."

These comments apply equally to the present study. Bruun and Hauge (1963) also conclude that legal restrictions influence the manner in which young people obtain alcohol, and the places where they drink it, rather than whether or not

they in fact drink. Results from the present study suggest that parents and adults exercise considerable control over young people's drinking in the parental home, but that this influence declines both with age and with increases in the frequency with which adolescents drink outside the home. When adolescents drink outside the home, for example, parents are hardly ever present and hardly ever provide drinks. In this situation, the drinking is largely under the control of the young people themselves; and they tend to drink more than they do in the home. (The girls also seem to develop a preference for spirits!) It is possible to speculate that the public house, or at least certain public houses, may have more to offer in the way of social interaction and control than the more secretive types of situation. A recent study of Chalke and Williams (1971) however, suggests that some public houses may be more satisfactory than others, in these and related respects.

The importance of stereotyped perceptions of young people who drink, or who abstain, as a possible source of motivation to drink, has been indicated in Chapter 3. The findings here indicate that young people tend to see the heavy-drinking teenager as being tough and rebellious and lacking in sociability, regardless of how much they themselves drink. Conversely, the teenager who does not drink tends to be viewed as a somewhat weak, acquiescent type of person who has a moderate or low level of sociability. Comparison of these findings with those of Bynner (1969) reveals certain similarities. In particular, both studies produce a similar kind of 'toughness' factor, plus other factors which take in interest in the opposite sex, attitudes towards authority, performance at school, and other related variables. On this point Clarke *et al.* (1972) provide additional supportive evidence and conclude that behaviour of young smokers is in large part defined by peers. They write:

"Particularly valued in this life-style is an image of 'toughness' and independence, and a pattern of leisure activities characterized by the anticipation of adulthood (including going out to dance-halls, cinemas and coffee-bars, listening to 'pop' records, spending money on clothes, and going out with the opposite sex). Educational success is not disparaged but seen rather as something relatively unattainable."

Since these two studies were concerned with smoking, the evident similarities, plus the finding from the present study that things which correlate with smoking also correlate with drinking, provide further evidence that drinking and smoking are likely to be functionally equivalent for many teenagers. In particular, the desire amongst young people to appear mature and avoid being categorised as weak or 'cissy', seems to be common to both the above smoking studies and the present drinking study. It is apparent that both alcohol and cigarettes are seen as means of attaining the one, and of avoiding the other. From the point of view of health education, or health propaganda, this suggests that both alcohol and cigarettes should, in some respects, be tackled simultaneously.

The data on interpersonal perception (Chapter 3) show that 'attractiveness' and 'sociability' are seen as desirable attributes. Neither the stereotype of 'the teenager who drinks heavily', nor that of 'the teenager who does not drink', yields high scores on a factor of 'sociability/attractiveness', however; suggesting that neither the heavy drinker nor the abstainer serve as an adequate model for drinking behaviour. The question remains, therefore, as to why most

young people drink, some of them quite heavily, when their stereotyped perception of the heavy-drinking teenager is so unfavourable. The following interpretation is offered. Examination of the perception of the 'actual self' shows that those teenagers who drink moderately or heavily (as defined by the drinking index) do not see themselves in terms of the stereotype of the heavy drinker, and therefore do not see themselves as lacking in attractiveness and sociability. In other words, individuals tend to see 'the heavy drinking teenager' as drinking more than they do themselves. Further light is cast on this paradox by the results from the 'actual self' which show that the more a young person drinks, the more 'attractive/sociable' he/she sees him/herself. The heavy drinker (as defined by the drinking index) rates himself as highest on this factor, and the abstainer as lowest. The converse is also true, in that the abstainer rates 'the teenager who does not drink' as being moderately attractive/sociable, but rates himself as very low on this factor. The abstainer, therefore, does not see himself in terms of the stereotype of the 'teenager who does not drink'. The failure of abstainers and occasional drinkers to see themselves in terms of their own stereotype of the abstainer (that is, their failure to see themselves as being at all attractive/sociable) means that abstinence is not reinforcing for them as a means of achieving the ideal level of attractiveness and sociability. It seems reasonable to suppose, therefore, that many would-be abstainers start to drink to achieve more attractiveness/sociability. The data show that drinkers do indeed rate themselves more highly than abstainers in respect of this factor, so that drinking might conceivably offer the abstainer a chance of moving nearer to his preferred self concept. However, since the drinkers, as a group, fail to see themselves in terms of the negative stereotype of 'the teenager who drinks heavily', even when they themselves do drink heavily, the aversive properties of the heavy drinking stereotype do not bear on the situation, and so do not serve as a control on the drinking behaviour. Both Mandell *et al.* (1962) in New York, and Searle-Jordan (1970) in a London borough, report that teenagers give 'to be sociable' as their main reason for drinking, so it seems not unreasonable that a factor of 'sociability' might play at least some part in the motivation of teenage drinking.

Several researchers have suggested that anxiety might be an important variable with respect to drinking. For example, Ritson and Hassall (1970) state that many of the alcoholics in their Edinburgh sample seemed to suffer from an 'excess of conscience'. Rosenberg (1969) showed that young alcoholics (aged 30 years or less) scored more highly than 'control alcoholics' (aged 31 and over) and normals on measures of neuroticism and anxiety. Fox (1967) suggests that inability to endure anxiety or tension is a characteristic of alcoholics. A study by Smart (1968), however, failed to find any consistent relationship between the amount of alcohol 'ordinarily consumed' by a sample of college students, and scores on the Taylor Manifest Anxiety Scale. In the present study, items were deliberately included which might give some indication of anxiety, and a group of items did in fact emerge as factor 1/5 (true/false), as described in Chapter 4. This factor was given the label 'anxious'. If alcohol acts in the manner of a tension reducer, one might expect the heaviest drinkers to have the highest scores on this factor. However, the 'anxious' factor fails to emerge as of major importance in either the multiple correlation or the H.I.T.S. analysis. It may well be that traits like neuroticism or anxiety are frequently found when dealing with groups or samples of alcoholics. They do not appear to be of great importance, with respect to drinking, in the context of the present normative study however,

though there may be *individuals* in the present sample who do drink primarily as a means of anxiety or tension reduction. There is little evidence therefore, to suggest that the drinking behaviour of young people in Glasgow is motivated by the need to reduce general states of tension or anxiety. Further support for this point of view is offered by McClelland (1971) who writes:

"... we could find no evidence for the widely held psychiatric belief that drinking is accompanied by oral gratification or dependency fantasies. Nor did anxiety fantasies decrease after small amounts of drinking. It took five or six drinks to reduce anxiety thoughts significantly. What did increase regularly with drinking were power thoughts—thoughts of having impact on others, of aggression, of sexual conquest, of being big, strong and influential."

Certain specific points arising from the multiple correlation and H.I.T.S. analyses are worthy of mention. In the former, the age of the first drink is found to be associated with scores on the drinking index, for both girls and boys. The data suggest that the heavier drinkers report the age of their first drink as being *later* than the lighter drinkers. Since the very earliest drinking experiences tend to take place in the home, under adult guidance, it seems possible that the heavy drinkers may be those individuals who do not receive an introduction to alcohol in this way, but who are left to discover alcohol and learn its use for themselves. Further to this point, it may be argued that parents who do *not* introduce their children to alcohol on certain 'special occasions' (the high incidence of 'special occasion' drinking in the home, amongst the younger boys and girls has been reported in Chapter 2) are more likely to have anti-alcohol attitudes, or to believe that children should never touch alcohol. The H.I.T.S. analysis for the girls shows that the girl who perceives her parents as strict or disciplinarian (i.e. *not* lacking in discipline) is the heaviest drinker. Examination of the scores for other variables shows that the girl who abstains and the girl who drinks heavily (that is, categories 1 and 5 of the drinking index) are similar in having the two highest scores on variable 5, which indicates that parents are perceived as having negative attitudes towards teenagers who drink. Categories 3 and 4 of the drinking index, by contrast, see their parents as having some degree of favourability towards teenage drinking. Examination of these variables for the boys shows an identical pattern in terms both of perceived parental discipline, and of parental attitudes to teenagers drinking, though these variables appear to make a less important contribution towards discrimination for the boys than for the girls.* The overall picture which emerges is that the heavy drinkers tend to have parents who are more disciplinarian, and more disapproving, than the moderate drinkers. The group which most resembles the heavy drinking category in these respects is the abstinent group. The possible dangers of too strong an abstinence orientation in the home, and the hypothesis that abstainers are in some ways more 'at risk' than moderate drinkers, have been outlined by several workers (Williams *et al.*, 1968; Alexander, 1967). The similarities between the heavy drinker and the abstainer in the present study provide a certain amount of further supportive evidence for such a view. On this topic, Bales (1959) writes:

*The finding that the heavier drinkers were introduced to alcohol at a later age is supported here by findings from the H.I.T.S. analysis. Certain of the variables mentioned do not occur in the 'top ten' variables for the boys, as listed in Table 20. Nonetheless, the consistency of the score profiles, and the similarity with the girls' results, suggest that these variables may be important. From a chronological point of view, the fact that they seem to add further detail about 'age of first drink' can hardly be overlooked.

"Thus total prohibition sometimes overshoots the mark and encourages the very thing which it is designed to prevent. This situation is frequently found among individual alcoholics whose parents were firm teetotalers and absolutely forbade their sons to drink."

Certain conclusions repeatedly emerge from the later analyses. In particular, 'the number of friends who drink' appears to be of considerable importance. The reasons why this is so are to a considerable extent apparent from the results in Chapter 2, which show that parental influences upon drinking decline with increasing age of youth; and also that drinking in places outside the parental home tends to come under the influence of young people themselves, rather than adults. Scores on the 'older generation stereotype' factor suggest that there may in fact be a deliberate withdrawal from adult influence. Given that young people as a group do not appear to drink in an attempt to alleviate general states of tension or depression, or to cope with stress, there are certain pointers from the present study as to why they do drink. The association between drinking and smoking which repeatedly occurs at various stages of the analysis, offers a clue. Belief that drinking indicates, for example, 'maturity' and the ability to 'look after oneself' (i.e. belief in an 'alcohol myth' factor) is the most consistently recurring among the attitude factors and appears similar to certain findings in the smoking studies already mentioned. It is argued here, therefore, that young people drink, and possibly smoke too, because they believe that alcohol and tobacco confer upon the user certain qualities, which include 'toughness', 'maturity', sociability and attractiveness to the opposite sex; and may for some individuals be symbolic of their rejection of adult authority and/or control. Insofar as young people have stereotyped images of drinkers and non-drinkers, to drink or not to drink clearly has implications for the way in which an individual is perceived by other members of his or her age group. A decision about drinking or smoking is therefore likely to be mediated by considerations of how favourably one will be perceived by one's peers. More simply, experimentation with alcohol is a teenage norm, and deviation from a norm has its penalties among teenagers as among other groups. The same may also be true of smoking.

The main cause for concern with adolescent drinking, however, is not that most young people drink, nor that they feel the need to maintain status in the eyes of their fellows by so doing, but that some of them drink too much or drink in such a way that the likelihood of them experiencing problems with alcohol in the future is increased. From the data in the present study, certain suggestions have been made as to what variables are associated with heavier drinking among adolescents. From the point of view of commencement of drinking, for example, it appears that many of the heavy drinkers in the present sample were introduced to alcohol *later* than their more moderate drinking fellows, which increases the probability that they in fact learned to use alcohol themselves, without the guiding influence of a parent. On the other hand, moderate drinkers appear to have parents whose attitudes towards adolescent drinking are tolerant or favourable, in contrast to the negative attitudes of the parents of abstainers and heavy drinkers. In addition to these previously discussed variables, however, the heavy drinker seems to subscribe to a group of attitudes which other categories of drinker subscribe to less strongly, or not at all. These attitudes are manifested, for both boys and girls, in high scores on

a 'trouble/precocity' factor which are characteristic of the heavy drinking group alone. The point has already been made in the Introduction, that drinking and delinquent or anti-social behaviour may be associated, but that the one does not appear directly to cause the other. The findings with regard to the 'trouble/precocity' factor provide further evidence for the association. If it is argued that drinking is a manifestation of delinquent behaviour and not a direct cause, it can be further argued from the present data that the young person who uses alcohol as some form of delinquent expression is more likely to drink heavily. It is possible, therefore, that at least a significant proportion of the heavy drinkers are motivated not only by the desire for toughness, attractiveness, sociability, etc., but by an additional need to express delinquent or anti-adult proclivities through heavy drinking. The heavy drinkers also have the highest scores on the 'older generation stereotype' factor, suggesting that they may feel more alienated from adult influence than other groups.

Drinking as a manifestation of delinquent tendencies however cannot occur until introduction to alcohol has taken place. In the first instance, drinking amongst young people, away from adult supervision, is probably motivated by the need to achieve peer group status in terms of a variety of interpersonal needs. From the point of view of anticipatory socialisation, this process may be summarised briefly as an attempt by most young people to acquire certain *adult* characteristics, at an age before they can become fully integrated into adult society. The continuation of under-age drinking will then be reinforced by the ongoing interaction and fellowship which they experience from their drinking peers, and by their own belief that they appear more attractive and sociable as a result of drinking. It is possible, however, that certain young people, as a result of their background and experience, may hold strong 'anti-adult' opinions, or a particular 'materialistic/cynical' view of the world, and find that their drinking is also reinforced by continued affirmation of their *rejection* of norms and values rather than, or as well as, by the positive social approval of their peers. From the start, they can achieve this by drinking more than the amounts usual for their age group (thus rejecting one 'norm') and by behaving in a variety of other 'scandalous' ways. Though there is no data on this point, one might guess that problem drinkers would be of the above type.

If young people are not introduced by parents to controlled alcohol use in the context of normal, everyday social settings, but are left to seek it out in secretive non-social settings; and if they receive from the adults with whom they have close contact the impression that alcohol use by teenagers is disapproved of, or even explicitly forbidden, then a model of alcohol use is provided which is eminently suitable as a vehicle for symbolising rebellious feelings towards adult authority, or for more general expressions of rejection of adult or conventional 'norms' and value systems. If, on the other hand, children learn that drinking is a part of normal everyday life, that it can be a useful concomitant to social behaviour, and that it is perfectly acceptable, a model of alcohol use is provided which is less likely to be adopted as a means of expressing rebellious feelings or more extreme, perhaps anti-social, forms of personal discontent.

Implications for health education

Health educators will probably draw their own conclusions from the empirical results presented in the report. However, in this section an attempt is made to

pinpoint some of the findings which, in the opinion of the authors, have implications for ways in which health education, in respect of teenage drinking, could be approached.

Since young people who drink heavily have high scores on the 'older generation stereotype' factor and appear to have negative or hostile attitudes towards authority in general and schoolteachers in particular, it is doubtful if schoolteachers are the ideal people to undertake the task of alcohol education in the schools. One alternative might be to train interested individuals to undertake the task of alcohol education, and to try to ensure that such individuals would be less readily perceived by young people as belonging to the category of 'teacher'. If practical considerations dictate that such training of individuals solely for the role of health educator in schools is not possible, then interested subject teachers might undertake the task, after attending a suitable course of training, by holding alcohol education sessions in several schools. Some subject teachers might prefer to carry out this function in schools other than the one in which they normally teach. Whichever alternative is chosen, it is desirable to experiment with more informal ways of handling sessions than is usual in the context of normal lessons. The possibility might also be explored of holding sessions in places not associated with the normal 'lesson' time-table, such as the gymnasium, dining hall, any common room, or even the playing fields, weather permitting.

A straightforward informational approach (for example, one dealing with different types of alcoholic beverage, the physiological effects of alcohol on the body, the effects of excessive alcohol use, the alcoholic beverage industry, etc.) can be useful in providing young people with a store of knowledge about alcohol and ensuring that they are aware of the known effects of alcohol, and its benefits in many social contexts as well as the dangers of its abuse. The present study, however, suggests that such an approach alone is inadequate. Furthermore, the lecture to a large audience which stresses the 'evils of drink' and adopts an abstinence orientation, may be unhelpful, by indicating to young people that drinking is an activity through which they can express rejection of adult norms. In a review of different approaches to alcohol education, and under the heading of *No Speech-Making*, Unterberger and DiCicco (1968) write:

"... we are opposed to the typical and perhaps destructive high school assembly programs which usually feature speakers on alcoholism. In addition to their negligible value as an education experience, they allow the school to feel that it has fulfilled its responsibility to teach about alcohol."

The present study suggests that sessions should in some way be orientated towards certain aspects of social interaction (group pressure, need for peer group esteem, relations with the older generation, etc.) which appear to be of importance in the motivation of adolescent drinking. An approach which is purely informational and which concentrates purely on the scientific facts about alcohol and its effects, neglects these most important areas.

It might be worthwhile, therefore, to experiment with informal group sessions in which all take part, as a contrast to informational sessions where the roles of educator and educated are more clearly defined. Discussion sessions about the advantages or disadvantages of certain roles, involving pupils in the 'devil's advocate' situation, might help in the development of greater tolerance towards

others with different attitudes and opinions. As a more radical approach, facilities and staff permitting, health educators might consider whether small role-playing experiments in which group members adopt the role of heavy drinker or abstainer in a variety of situations (i.e. in the home, at a party, in the pub) have any value as a means of allowing individuals to experience in some small way roles other than the ones they adopt in everyday life. Such sessions, needless to say, would need to be under the supervision of a skilled group leader. Whatever methods are adopted, some way is needed of leading young people to take a fresh look at certain of their own, possibly oversimplified, attitudes, beliefs and opinions. The point that alcohol education sessions be conducted in ways which are not immediately identifiable as a mere extension of 'normal' lessons, or which are not perceived by young people as yet another attempt by 'them' to tell 'us' what we are doing wrong, cannot be over-stressed. Globetti (1969), a U.S. specialist in health education, even goes so far as to suggest that "how we teach is more important than what we teach."

A further topic for consideration concerns the data on the various stereotypes, particularly those of 'the teenager who drinks heavily' and 'the teenager who does not drink'. Although these stereotypes emerge consistently from the young people in every category of the drinking index (i.e. their perception of the 'heavy drinking' and the 'abstinent' teenager is more or less the same regardless of how much they drink themselves), there is a failure on the part of the heavy drinkers (drinking index 5) and abstainers (drinking index 1) to *see themselves* in terms of these stereotypes. From the point of view of health education, there are certain implications from these findings. For example, on the one hand the extremely 'unsociable' image which young people hold of 'the teenager who drinks heavily' could serve as a deterrent to heavy drinking, if those young people who *in fact* drink heavily could be made to see themselves in terms of such a stereotype. On the other hand, if young people see themselves in terms of this tough, unsociable stereotype, there is a risk that some of them might begin to 'act out' the role of the heavy drinker, and become confirmed in this role by their peers. Some individuals might even find the tough and unsociable role attractive. The situation with regard to the abstainer is more straightforward, however. By attempting to dispel the negative image of the abstainer as unattractive, not particularly sociable, and not tough, young people might be less concerned with the negative associations of abstinence which are at present apparent in the 'abstainer' stereotype, and the value of drinking as a means of achieving toughness, attractiveness and sociability might consequently be decreased. Needless to say, a direct approach, in which the group leader simply states, "abstainers are just as attractive, sociable and tough as any one else," is unlikely to be effective. An approach is required which will allow young people to arrive at conclusions for themselves. In some respects, the health educator's job is made more difficult, in this area, by the kinds of themes used in alcohol advertising. Many advertisements stress the attractive/sociable image of alcohol and drinking, and hence, by default, imply that *not* drinking is *not* sociable or attractive. There is an inconsistency in the legislation, which attempts to control the sale of alcohol to young people, but which does not attempt to control promotion of sales of alcohol to young people. Many advertisements use themes which are attractive to teenagers and it is unrealistic to assume that this attraction does not operate below the age of 18 years. Some control of alcohol advertising might be of assistance, and would be in line with existing controls on the pro-

motion of sales of cigarettes and pharmaceuticals. In a satirical but pointed article on the problems of draining 'alcoholic swamps', Edwards (1971) a leading psychiatrist in the field of alcoholism, writes,

"The public health plea is simply that, where measures bear rather directly on the relationship between a society and its drug use, health considerations should be foremost, rather than an optional extra."

A fuller discussion of these and related issues can be found in Stacey and Davies (1972).

The results from the later statistical analyses in the present study consistently show relationships between the amounts of alcohol consumed by young people and certain of the attitudes and opinions they hold. Several other studies have pointed to a similar relationship. Veevers (1971) in a Canadian study, reports that attitudes towards the drinking of alcoholic beverages correlate highly with reported drinking behaviour. Globetti (1969) in the U.S.A., describes the differences in the drinking practices of two communities, and related differences in reactions to an 'alcohol education package'. Williams *et al.* (1968), also in the U.S.A., report relationships between attitudes towards adult and teenage drinking and reported drinking behaviour. From Australia, Sargent (1971) also shows a relationship between a range of cultural attitudes and alcoholism. In the present study relationships occur not only between drinking and attitudes to alcohol/alcohol use, but also between drinking and attitudes to a variety of topics other than those concerning alcohol and drinking. There is also a strong suggestion that drinking and smoking may be associated with similar types of attitude. Therefore, it might be advantageous to organise health education, dealing with drinking or smoking, on a fairly wide, rather than a specific basis. In other words, it is necessary to consider the possibility that excessive adolescent drinking (and smoking?) is partly a problem of attitudes and beliefs rather than solely one of alcohol (or tobacco); in which case, health education would need to cover a broad area of social attitudes and beliefs, in addition to dealing with alcohol and tobacco.

The influence of the peer group upon teenage drinking has been repeatedly stressed at various points in the present study. However, evidence suggests that parental attitudes and behaviour may also be of some importance, particularly with regard to the formation of anti-adult beliefs and stereotyped perceptions of a 'spoiling' older generation, by young people. Health educators might thus consider the possibility of directing a certain amount of information and propaganda towards parents, though there are clearly practical difficulties involved. Finally, much has been argued about the efficacy of fear arousing appeals in the field of public health (Higbee, 1969, Evans *et al.*, 1970, Rogers and Thistlethwaite, 1970, Leventhal, 1965), and a great deal of literature exists on the subject of conditions in which fear arousal seems more, or less, effective than other types of approach. Further experiment and research is needed to evaluate the strength of fear appeals as instruments of attitude and, hopefully, behaviour change, in the present context of teenage drinking and smoking. It can be stated, however, that appeals of this kind are necessarily specific, concerned directly with the dangers of alcohol and tobacco. Such attempts to deal with a specific set of attitudes might meet with greater success if simultaneous efforts are made to tackle more general attitudes and beliefs which are related to the particular behaviour (in this instance, drinking) in question.

It is worthwhile remembering that at least 80% of adults in Scotland can be classified as drinkers, and there is every reason to suppose that the majority of young people in the present sample will also grow up to be drinkers. History shows that prohibition legislation produces serious undesirable side-effects, and that, if anything, it tends to increase the incidence of problem drinking. An abstinence oriented approach is, therefore, unrealistic for a majority of people, and probably dangerous from the public health position. In addition, controlled drinking in social situations can be both pleasant and socially beneficial. Alcohol education should thus stress the benefits and pleasures to be had from moderate or controlled use of alcohol, as well as the dangers of its abuse.

Recommendations

From a health point of view, the aim with regard to alcohol consumption is different from the aim with regard to smoking. Whereas with smoking the main intention is to encourage people to abandon the habit, the aim with regard to alcohol is not necessarily to produce abstinence (a state of affairs which is unlikely to be achieved), but to produce moderate and controlled drinking. An attempt is made here to outline certain possibilities for action with a view to the achievement of this goal. The recommendations are made on the basis of findings from the present study and represent aspects which, in the opinion of the authors, might be of interest to individuals or agencies concerned. Other people, however, might arrive at different or alternative conclusions. The recommendations are made under three headings, concerning parents, educators, and other possibilities for action.

Parents

1. The study shows that the heavier drinkers tend to become acquainted with alcohol at a later age than the more moderate drinkers. Heavier drinkers also tend to have parents who are more 'disapproving' in their attitudes towards adolescent alcohol use. If parents expressly forbid their children to drink in the home, it appears that they might thereby increase the chances that their children will drink somewhere else. This is not to say that young people will automatically drink; but merely that if they do so they will probably drink in secret or clandestine situations, outside the home and away from adult influence. The present study also shows that teenagers drink more heavily and consume 'harder' beverages when drinking outside the home. *It seems advisable, therefore, for parents to provide a home environment in which their children can learn the controlled use of alcohol, should these young people wish to do so.*

2. The ways in which parents conduct themselves with respect to alcohol will influence the ways in which their children respond to alcohol. Clearly, parents whose own use of alcohol is excessive, uncontrolled or anti-social, do not provide a model which is likely to contribute to the development of patterns of alcohol use or non-use in their children uncoloured by emotion or prejudice. Similarly, parents who exercise no direction at all over their children's drinking may leave them open to other possibly undesirable influences. Whether parents themselves are moderate, light or occasional drinkers, or in fact teetotal, is less important however than whether their attitudes towards alcohol are based on 'principles' which are perhaps inflexible or misconceived. By adopting a standpoint that teenage drinking is wrong or possibly even 'wicked', or that alcohol is

'evil', parents increase the probability that their offspring will use alcohol if, or when, they need to symbolise rejection of parental authority. During adolescence young people increasingly need to feel that they are making their own decisions, and are more likely to respond critically or unfavourably to decisions they believe are imposed upon them. *From a parental point of view an uncompromisingly prohibitive attitude with respect to teenage drinking is therefore probably best avoided.*

3. The study shows that the heavy drinking teenager tends to have more money than his more moderate drinking fellows. It is possible, therefore, that excessive amounts of money might serve to increase the availability of alcohol, cigarettes, etc., for some individuals. *Parents might therefore monitor more carefully the amounts of money which their offspring receive each week from whatever source. Attempts to discourage possibly excessive spending on cigarettes or alcohol might also be helpful.* It should be pointed out, however, that there are two disadvantages to this approach which tend to reduce its effectiveness. Firstly, the spending money available is almost certainly related to occupational status, so that differences in social norms may well account for some of the differences in patterns of alcohol use. Also, regulation of spending is a treatment of *effect* rather than *cause*, because it does not impinge directly upon the initial motivation to drink. However, whilst this recommendation is unlikely to contribute substantially in the long run, it may be worthwhile for parents to attempt to control direct means of access to alcohol in some way, as an initial measure, and to be alert to the possible dangers of allowing too many 'wild oats' to be sown.

4. Parents need a sympathetic understanding of the young person's friendships, group activities and social aspirations. Young people do not like to be thought of as cissies or weaklings or as socially unacceptable. They like to be thought of as attractive and rather dashing. Evidence from the present study shows that teenagers drink because they believe that this will demonstrate their attractiveness and toughness. If certain adults consistently treat young people as juveniles, they increase the chances that young people will in their turn treat adults in ways which adults do not like. By stressing the fact that teenagers are 'still children' or that they are 'too young to know', adults may provoke the reaction on their part that adults are 'too old', and that they represent a system of values to be rejected in turn. In the present study, strong desires to be older, and positive responses to the item, "When I want to do certain things, my parents tell me I'm not old enough," are found to be associated with possible indicators of delinquent behaviour, as well as with heavier drinking. *In trying to ease the transition from adolescent to adult status, parents might try to explain any restrictions in terms of meaningful consequences, rather than by placing unnecessary emphasis on the teenager's lack of years.*

5. Evidence from the present study shows that the peer group has considerable influence upon teenage drinking behaviour. It might be wise, therefore, for parents to permit moderate drinking at parties or gatherings of young people in the home. This may serve to provide a drinking model for the group, and might reduce the chances of excessive drinking outside the home. The findings suggest that where parents forbid certain behaviours, including drinking, they in fact prepare a series of behavioural 'targets' for the young person if, or when, he/she wants to reject adult or parental authority. This may be even more

marked if parents themselves are regular drinkers. If young people perceive that their parents accept drinking by teenagers, then clearly drinking in itself cannot be used to symbolise rejection of authority. *If parents treat moderate alcohol consumption as acceptable, rather than as something special or forbidden, the chances of their children drinking in order to express rebellion against parental authority are reduced.*

Educators

1. The findings show that the more heavily a teenager drinks, the more unfavourable are his attitudes towards authority figures in general, and school-teachers in particular. This means that the more alcohol a young person consumes, the more inappropriate is the choice of an authority figure as a vehicle for health education. *For the task of health education, therefore, it may be advantageous to use either teachers who have especially friendly and informal relationships with young people, or special counsellors who are less readily placed in the category 'teacher'.* The formal pupil/teacher relationship might be abandoned to a large extent during health education sessions, and ways sought of producing an appropriately informal setting, and of adding variety to the teaching sessions.
2. There is much evidence to suggest that the formal 'lecture' to a large audience is of very limited value. With such large groups, much of the face to face interchange is lost, and the group becomes more impersonal. However, a very open and uninhibited response was obtained from the young people who took part in the small group discussions during the early part of the present project. It would appear, therefore, that small groups of perhaps not more than ten individuals are best from the point of view of health education sessions. The problem remains whether individuals should be allocated in any special way for these groups. For example, teenagers judged to be 'high risk' could receive different types of information from those judged to be 'low risk'. On the other hand, this could lead to the development of a certain prestige in belonging to a 'high risk' group, and to undesirable polarisations if the basis for selection were known. Further evidence is needed on this point.
3. The findings indicate that drinking and smoking are in many ways similar. In particular, heavy drinkers tend to be heavy smokers, and tend to hold attitudes and beliefs which distinguish them from less heavy drinkers and/or smokers. This suggests two possibilities. Firstly, that in many ways health education can tackle drinking and smoking simultaneously without detriment to either. Secondly, drinking and smoking behaviour can be influenced not merely by concentrating on facts or attitudes directly concerned with alcohol and tobacco; but that attitudes and opinions on a variety of other topics might also influence drinking and smoking. *If young people drink or smoke because they feel a need for toughness, or a need to rebel against certain adult norms, then these topics must be discussed too.* It follows that certain cherished adult values might be topics for critical discussion.
4. Certain findings from the present report and from the group discussions suggest that most young people are aware of the connection between smoking and lung cancer, and know something of the unpleasant consequences of excessive drinking. From the point of view of health education, the infinite elaboration of these themes is redundant in terms of facts, and may be positively harmful in terms of effects. Simple reiteration of a well worn message may in fact bore

teenagers, and fail to improve the situation, or worse might alienate them. Information about alcohol therefore needs to be 'real' in the sense of being *informative*, and needs to deal with the pleasures of drinking, and the socially beneficial effects of controlled alcohol use as well as the dangers of abuse. *Persistent emphasis of only the negative aspects of alcohol abuse should be avoided* as this leads too easily to the conclusion that "this is just another adult, telling us what we must not do". In addition, health educators need to be aware of the shortcomings of an approach which is *purely* informational. The supposition that excessive drinking or smoking stems from lack of information, and that the behaviours in question will cease when the facts are known, is unwarranted. Session leaders need to lead discussion in any areas which might be relevant to a broad range of attitudes and beliefs associated with drinking and smoking, and avoid an exclusive concentration on alcohol and tobacco. In this respect, group members should be encouraged to direct sessions or lead discussion on topics which they feel to be pertinent.

5. The present study shows that 'the teenager who drinks heavily' is perceived by other young people as being tough but not sociable. On the other hand, 'the teenager who does not drink' is seen as being weak and not very sociable. It is apparent, however, that young people fail to see themselves as heavy drinkers, even when they are. The unsociable characteristics of the heavy drinker thus do not deter them from drinking. In fact, they see *themselves* as being *more* sociable as a result of drinking. In addition, their drinking behaviour is reinforced by the desire to avoid being seen as weak and not very sociable, which is the image of the non-drinking teenager. *The health educator might profitably attempt to redress this imbalance by endeavouring to create a new, more attractive, and possibly more realistic, image of the non-drinker*, so that the decision not to drink no longer has implications about one's potency or sociability.

Other possibilities for action

1. It is apparent from the present study that alcohol and drinking have certain strong associations for young people. They associate the consumption of alcohol with toughness, maturity, attractiveness to the opposite sex, and the ability to 'look after oneself'. They also seem to think that it is only 'natural' for a man to drink, and that a 'real' man can 'hold his liquor'. These are precisely the areas within which many alcohol advertisements operate, and they tend to reinforce the mythical attributes of alcohol rather than dispel them. By stressing the toughness and sociability (especially sexual attractiveness) associations of drinking, they also tend to strengthen by implication the notion that *not drinking* indicates weakness, unattractiveness and lack of maturity. *It would be helpful therefore if steps could be taken to bring advertisers to consider more carefully the dangers to young people of this type of message, given present circumstances. In addition, there is an anomaly in the legislation which restricts sales of alcohol to young people but does not restrict promotion of sales to this group.*

2. 'Toughness' is associated with drinking in the minds of many young people. Certain types of public house probably do more to maintain this association than others. For example, the hyper-masculine or men-only bar is probably both a reinforcer for, and indirectly a product of, this type of belief. *Attempts to provide more varied facilities catering more for women or mixed parties, and to create less dour drinking surroundings might help to provide a more pleasant and*

sociable setting for drinking. If the public house came to be viewed as something other than a mere 'drinking machine', associations between drinking and toughness or maturity might be weakened.

3. The finding that open-air, clandestine drinking is most frequent among the 14 year olds in the present sample, and least frequent among the 17 year olds, is of interest. It has been argued that the current legislation with regard to age limits might be an influence in this area, insofar as it keeps the younger teenagers out of the public house (where some controlling adult influence might be present) but fails to stop them obtaining and consuming alcohol. *Since young people can drink under adult supervision in the home, it might be worthwhile considering whether they should be permitted to drink under adult supervision in the public house.* This would also have the possible advantage of reducing the lure and mystique of the public house for the young drinker; and at the same time ease the task of the landlord in observing the law with respect to 'under-age' drinking.

4. The use of alcohol and cigarettes, and the attendant values and attitudes, are subjects which concern teenagers, parents and teachers alike. For example, certain of the attitudes and beliefs found in the present study are not unique to those aged 17 years or under. *Some way of permitting a more free exchange of ideas between these three groups of people is desirable.* In schools, the idea of parent/teacher gatherings is not new. Some schools even have teacher/pupil committees. However, there might be advantages in holding parent/teacher/pupil meetings, in the style of an open 'forum', to discuss specific problems of teenage behaviour, teenage relationships with adults, and the needs, aspirations and ambitions of youth. Such a forum would provide scope for interchange of views between all three groups. Finally, since a large proportion of teenagers have considerable drinking experience by 14 years, it follows that any measures of the above type should take place at an age earlier than 14 years.

Postscript

The present survey involved a great number of young people in answering a long series of questions on various topics, many of which, it can be argued, are nobody's business but their own. The authors gratefully acknowledge the good humour and co-operative spirit of the great majority of those who took part in the study, and extend apologies to those who felt that certain questions were an invasion of privacy. The authors hope that the study will prove useful for its intended purpose.

A great deal has been written about young people in the preceding pages. It is therefore fitting to conclude with some comments, from young people, about the present study.

"To-days survey on Teenage Activities and Interests was on the whole quiet good but seemed to me to spend too much time on drink. I realise something must be found out about teenagers drinking but we have problems much bigger than that. The biggest problem I would say would be gangs. This problem is much worse than most adults realise. Certain districts of Glasgow must be considered out-of-bounds for most teenagers, unless they go there looking for a fight. I also feel a smaller questionnaire giving more scope for elaboration rather than just a simple yes, no, true, false questionnaire would have been a better idea. This would have given more chance for explaining circumstances."

"I think that todays survey on Teenage Activities and Interests was very interesting. I thought that the survey made me realize more about myself."

"This survey, about teenage interests should give a lot of people an idea of what we, the teenagers are really like. It's very easy to be truthfull, as no names were given. The half of the things I wrote would never have been put down if my name was on it. I wish these surveys had been sent to a few parents, to let them see that their teenage son/daughter are not the only ones who take a fly drink or smoke. Many parents think that if their child wants to drink, he's 'heading the right way for trouble'. Many parents, mine for instance both tell me, if you want to smoke you wont do it in here. They both smoke, my father heavily. Its the same with drinking."

"This survey, on the whole, should prove to be beneficial to the older generation, as the majority seem to think us incapable of doing anything or acting under our own jurisdiction.

Although some of the questions are stupid, for example "Do people who don't drink tend to be happy or sad". How are we meant to know, how other people feel. You should leave this to the psychologists.

When the results of this survey are know I think there will be a bit of trouble with the athorities, as I am sure that they don't realise to what extent, we have broken their rules and regulations. However, they must realise that most of us are capable of deciding when and where we are going to drink or smoke."

"On the whole I think this survey would be better suited to some de-mented members of the Alchoholics Anonymous."

"I think it is quite right to have a survey on Teenagers. The questions were very fair and I did not mind answering them. There was too many questions on 'Drinking'."

"Today's survey to me seems a waste of time both on the participants, the examinors and especially the people who came to distribute the papers. Government money being spent on something which will probably be locked in some old cupboard and never looked at. Today for instance I myself am missing an important lesson, 10 women arrived, to me only about 2 or 3 would have been needed. They get paid for this out of the taxpayers money and for what so that some government bureacrat can announce that 50% of teenagers smoke drink and are in bad health. Surely we know this, parent must surely be aware that their children at some time or other have or will come in contact with alcohol and cigarettes. They do not need a report such as this, it won't shock anyone, and it most certainly will not make those who involve in such things stop. Reports like this do not prove anything to anyone. only confirm what everyone knows, we do not need to know the exact figures. All over the world and even in Glasgow itself, money is urgently needed to build homes, to feed starving, and yet in my mind, money is being wasted on such ventures as this. People are aware of the problem of drugs, alcohol, and smoking among teenagers this survey will prove nothing except a few figures which everyone will 'awe' at but not do anything about. A complete waste of time and money then in my opinion"

"I think that the Governments concern for what the teenagers are living like to-day is very interesting. There should be a lot more of these surveys carried out to find what the older generation think of the younger generation and vice versa.

The only trouble nowadays is that the older generation are too far behind

us, they don't have the faintest idea what our aims are. They they think because we wear our hair long, go to pop feastivals, listen to records and radio all day long and have sex before marriage that we are wild ignorant animals. They don't realise that it is the younger generation that will be running this world in time to come.

Because I am a (member of an ethnic minority) my parents threaten to throw me out of the house if I marry a girl from Scotland, England. I am strongly in favour of mixed marriages because it could help to bring this world together and when that is accomplished which will not be in my lifetime the world will be a much better place to live in."

"A question I didn't like was on who gave me drink on any occasion. I usually by my beer myself and have never had an trouble in an off-licence or bar about being under age."

"This survey made me express my opinions on some things that normally I wouldn't dare answer in public. also you didn't have somebody standing over you telling you that you're too young to express your ideas and views.

On the whole I enjoyed this survey and hope during my school time I'll be able to answer another one."

"I think today's survey on Teenage Activities and Interests are important and neccessary. They are import in the aspect of helping bridge the age gap and build an understanding between all people of different ages."

"What I think about todays Survey on Teenage Activities and Interests. I think the notes were very interesting and I specially liked to answer a lot of the questions. It taught me a lot of things I didn't understand before. And the ladies holding it were very co-operative."

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APPENDIX 1

Drinking Index

Preliminary Considerations

1. The alcohol content of different beverages varies widely. The alcohol content of beverages of the same class is also variable. In addition, not all members of the liquor retail trade serve drink (particularly wines and spirits) in the same quantities. Finally, not all members of the drinking public consume their drinks in standard quantities. The figures used in computing a drinking index must therefore be viewed as estimates.

2. The function of the index is to enable respondents to be *rank ordered* in terms of their alcohol consumption. The index is less reliable as an absolute measure of quantities consumed.

3. The accuracy of people's answers on the questionnaire is limited by the accuracy with which they recall events, their willingness to be truthful, and the appropriateness of the forced choice categories offered.

Definitions

1. The alcohol content of wines ranges from about 12% to about 14%. Fortified wines, however, may reach 20% or over. An overall estimate of 15% is used here, when computing the absolute alcohol content of wines.

1a. Wines are not commonly sold by the glass in public houses. Also, there is no widely used standard wine measure. Much drinking of wines takes place from the bottle, or from tumblers of different sizes. The definition of a 'glass of wine' is therefore somewhat arbitrary. A figure of 3 oz. is taken as an estimate of a 'glass of wine'.

2. Beer is customarily served in half-pints and pints. The alcohol content of draught beers ranges from about 3.4% to 4.7%. A figure of 4% is used here.

3. The alcohol content of spirits is one half of the stated proof. Most proprietary brands are given as about 70% proof. Unblended malt whiskies, however, may reach 80%, 90%, or even 100% proof spirit. A figure of 80% is used here, giving an absolute alcohol content of 40%.

4. The estimated alcohol content of different classes of beverages, for the quantities specified, is given below.

	Amount of absolute alcohol (oz.)
$\frac{1}{2}$ pint of beer	0.40
single shot (one-fifth gill) spirits ..	0.40
glass of wine (approx. 3 oz.)	0.45

In scoring the quantity index, the above were taken as being 'working equivalents' in terms of alcohol content. A more precise measure is not justified in view

of the sources of variance listed in paragraphs 1, 2, 3 (see Preliminary Considerations).

Using the equivalence values given above, a score of one (1) was awarded for each unit consumed, using the lower limits in each forced choice category. A histogram of raw scores was constructed for the total consumed, and another for the average consumed per drinking occasion.

Individuals were assigned to one of five categories on the basis of these scores, in the following manner:

All abstainers formed category one.

The remaining drinking subjects were then placed in categories two, three, four or five, by splitting the distribution of raw scores at the 25%, 50% and 75% points, to give as nearly equal numbers in each group as possible.

The process was applied to both average and total drinking scores, to give both a total and an average index. The best overall index is the average, as this combines both quantities consumed and drinking occasions, to give a quantity frequency type index.

Finally, in the present study, it should be remembered that subjects are asked to recall a variety of *specific* situations in which they have consumed alcohol. Some previous studies have asked a general question about where a person 'usually' drinks, and how much he 'usually' consumes. It was hoped that the reliability of the information received would be improved by asking subjects to report quite *specific* situations, rather than make a general assessment in answer to a general question.

APPENDIX 2

Hierarchical Interactive Tree Structure (H.I.T.S.)

The H.I.T.S. analysis uses the same variables as the multiple correlation analysis, and attempts to describe each drinking category in terms of these variables. However, there is not a simple one-to-one correspondence between drinking categories and H.I.T.S. categories. The H.I.T.S. uses the five point drinking index as its initial criterion, but then permits a certain amount of re-allocation to take place. Thus a person who is not typical of a particular drinking category (and who therefore in a sense is misclassified) can be re-assigned by a neighbouring category with which he has more in common. There is thus a degree of flexibility in the formation of categories.

For example, a given H.I.T.S. category may contain all, or nearly all, of the abstainers and thus be equivalent to Drinking Index No. 1. However, the H.I.T.S. category may also contain a number of persons from Drinking Index 2 (light drinkers) who in fact have more in common with abstainers than with light drinkers. As a result, both the 'abstainers' and the 'light drinkers' benefit from a type of 'purification' process. In addition H.I.T.S. can produce a variable number of categories, by virtue of the flexibility of assignment, whilst still using the original criterion of classification as a starting point. In the present study, a range of solutions from 2 to 10 categories is provided. This type of re-classification is impossible with conventional hierarchical analysis.

For each group, the H.I.T.S. analysis lists variables in decreasing order of importance. The variables selected first will thus be those which differentiate between that group and the rest of the sample to the highest degree. In the results tables (Tables 20 and 21), the *first ten* most salient variables for each of the *five groups defined by the five group solution* are given. A pool of twenty variables (out of a total of thirty) is sufficient to cover the first ten variables for all groups, since many variables occur in one or more groups.

Macrologic

The macrologic of the program is based on achieving a good discrimination between groups of observations, measured by the value of the dependent variable in those groups, and described by the values of the independent variables. The mechanism of the discrimination is based on sums of squares variation of observations from group centroids, and it is these values which determine the solution.

The steps which take place follow this pattern: Having decided to divide a group (the total sample in the first instance, and the least homogeneous group at subsequent levels), the division is made on the basis of increasing the discrimination with respect to the dependent variable. After an initial separation, a cycling procedure, described below, continues until the solution stabilises. The cycles undertaken are such as to simultaneously consider all two-way interactions taking place between the criterion (dependent) variable and each independent variable. The cycles stop when changing individuals from one group to another is no longer useful in improving the overall homogeneity and likewise the discrimination on the dependent. When the solution is thus stabilised, the solution is

described in full and the least homogeneous group becomes the candidate for the next division. Divisions and cycles continue until the specific upper limit of groups is reached and the run is then completed.

APPENDIX 3

General Instructions to Field Workers

Arrival at the school

1. Arrangements should be made for the team to congregate outside one of the school entrances, so that teams enter the school *en masse* rather than as a stream of individuals. As a general rule, the team leader should act as spokesman.

2. Teams should arrive 15–20 minutes before testing is due to commence, to allow time for preparation of visual aid material, and to solve any minor administrative problems which may arise.

Questionnaires

The questionnaire schedule takes the form of a single booklet, comprising a face page and six questionnaires. Subjects work through the questionnaires sequentially, without stopping.

It is recommended that a few spare questionnaire schedules be taken to each session, to replace any which are not clearly printed, or which are incorrectly assembled.

The components of the questionnaire schedule are as follows:

- | | |
|--------------------------------|--|
| 1. Face page (white). | General introductory message. |
| 2. Questionnaire one (yellow). | Background information, hobbies and pastimes. |
| 3. Questionnaire 2(a) (pink). | The kind of person you are. |
| 4. Questionnaire 2(b) (pink). | The kind of person you would like to be. |
| 5. Questionnaire 3 (blue). | Drinking and smoking behaviour.
(note that part of questionnaire 3 is
to be filled in by <i>non-drinkers</i> only.
This section is on white paper). |
| 6. Questionnaire 4 (buff). | Attitudes to alcohol and drinking. |
| 7. Questionnaire 5 (green). | (i) Opinions and beliefs (general).
(ii) Opinions and beliefs (self). |
| 8. Questionnaire 6(a) (pink). | The teenager who drinks heavily. |
| 9. Questionnaire 6(b) (pink). | The teenager who does not drink. |

Length of session

Two class periods are allocated per session. This should be sufficient for the slowest classes to complete the questionnaires. Many classes will be considerably faster than this.

There is no break during the session.

Procedure

1. *All examples and visual aids should be drawn on the blackboard before the session commences.* Ideally, this takes place before children have entered the classroom.

2. *One questionnaire schedule is distributed to each person in the class.* Each schedule will have entered on the top right corner the code number of the school and class.

3. *Ensure that every child has a schedule bearing the appropriate codes; and is equipped with a serviceable writing implement.* Field workers will require to carry a box of pencils or biros for those subjects who need them.

4. *Children should be requested not to open their schedules, or start answering, until told to do so.*

5. *The team leader gives her introductory speech.*

6. *After the team leader's speech, any questions of a general nature are answered. Subjects are then told that if they have any problems during the session, they should simply put up their hands; they should not discuss problems with their neighbours.*

Subjects can then commence answering.

From this point on, the schedules are designed to be self-administering. In practice, however, there will be many classes where additional help and guidance is necessary. Team members must be on the lookout the whole time for any difficulties which arise.

Special attention should be paid to the following points:

Questionnaire 1. Questions 10 and 11

A *description* of the father's job is required here, as well as a simple job name. Team members must organize themselves so that every subject has his answer inspected and passed as satisfactory. The reason for this description is that some subjects put down very general job names such as 'engineer', 'salesman' or 'branch manager', which are impossible to code according to S.E.S. (social class) without more detail. On the other hand, some jobs like 'bus conductor' are self-explanatory, so some discretion is called for in deciding what is a satisfactory answer.

It is vital that this question is correctly filled in.

Questionnaire 2a

Watch for any difficulties which may arise. As a general rule, there is little difficulty once the first few items have been answered.

Questionnaire 2b

Subjects must be quite clear about the difference between 2a (self) and 2b (ideal self).

One or two 'spot checks' are advisable. ("Who are you telling us about this time?").

Questionnaire 3

This is the most complicated of the questionnaires. Field workers should be completely familiar with those sections to be filled in by smokers and drinkers, and those to be filled in by non-smokers and abstainers.

Questions 15, 16, and 17 concern specific types of drinking situation. Be on the lookout for subjects who find difficulty with questions demanding up to 2 ticks per item, (e.g. "Who was there?" and "Who did you get your drinks from?" Although subjects are filling in one table, these are in fact *two* distinct questions). The 'drinks' table may also cause some difficulty.

On the true/false question concerning alcohol and alcoholics (question 8) some subjects may object that they know nothing about this topic. They should be encouraged by pointing out that we are not interested in whether they choose the 'right' answer, (there are no 'right' or 'wrong' answers) but only in what they *think*.

Questionnaires 4 and 5

On the 'agree/disagree' items, some subjects may try to save themselves effort by endorsing one category (probably 'uncertain') for all items. Field workers should watch out for 'runs' of this kind. Where they occur, subjects should be asked to check the list again.

On true/false items subjects *must* answer one way or the other; (sometimes, subjects draw a tick which overlaps equally into both boxes in an effort to avoid choosing).

Questionnaires 6a and 6b

As 2a and 2b. Make sure that subjects realize what kind of teenager they are describing, and that the difference between 6a and 6b is apparent (i.e. are they talking about 'teenagers who drink heavily', or about 'teenagers who do *not* drink'?).

Checking procedure

Schedules *are checked as they are collected*
and
collected as they are completed.

Checking is performed as follows:

1. Ensure that questions 10 and 11 in questionnaire 1 are satisfactory.
2. Turn to question 11 in Questionnaire 3, to determine whether the subject is a 'drinker' or an 'abstainer'. Then check that the appropriate sections have been filled in.
3. Turn to questions 15, 16 and 17 in questionnaire 3 and ensure that these are filled in consistently; (for instance, if a child ticks that he has *never had a*

drink in his own home, and then goes on to say who was there and who he got his drinks from, this is not consistent).

4. Flip through the questionnaire to see if any page has been missed. Any runs of blank answer spaces are readily detectable; spotting individual omissions is a little harder. Any errors or omissions should be brought to the attention of subjects for correction.

Supplementary suggestions

Classroom atmosphere

Schoolchildren are used to discipline, and to expect an authoritative manner from the person taking over from the class teacher. The team leader should establish firm control at the commencement of the session. If talking is allowed, the quality of children's answers will deteriorate. An over-authoritative, or antagonistic manner may also prove detrimental, however, if this produces a tense, anxiety provoking atmosphere.

Correcting answers

When a subject makes an error, much time may be wasted in 'rubbing out', or in passing erasers to and fro. Encourage subjects to *cross out* rather than rub out, and to indicate their new choice clearly in a different space. Remember that incomplete or 'half-hearted' crossing out may make marking difficult.

Poor readers

In certain classes, it occasionally becomes apparent that one person is having extreme difficulty. Extremely slow progress through the questionnaires often indicates problems with reading and/or comprehension. In such a case, one team member should sit with the individual in question, and read or explain each item as it comes up. If there is more than one such case, it may be worthwhile to employ one team member 'full-time' on the difficult cases.

Early finishers

As subjects complete the schedule, they should be given further tasks to keep them busy and prevent interference.

The following selection of essay titles is suggested:

1. What I think about today's survey on Teenage Activities and Interests.
2. Does space travel cost too much?
3. What caused the Ibrox disaster?
4. A day in the life of a 'pop' group.
5. Clothes and fashion today.
6. Is television good or bad?

After the session

1. Completed questionnaires should be placed in a pile where they are clearly visible.
2. The team leader should thank the children for helping, and the head teacher or principal for his co-operation.
3. *Check thoroughly that no questionnaires have been left behind in any of the classrooms.*
4. Questionnaires should be delivered as soon as possible to the appropriate collection point.

APPENDIX 4

Sampling

The sample for the main study was designed by Mrs. Brenda Hope at the Office of Population Censuses and Surveys. As with the pilot study, permission was first sought from the L.E.A. (in this case the Glasgow Education Committee) to proceed with the study. The final decision on whether or not to participate, however, lay with the individual head teachers and principals. A detailed description of the sample design is given below, and some of the problems outlined.* As a precursor, a statement about the older subjects in the sample is necessary. Up to the age of 15 years, a theoretically representative sample can be obtained in schools. After this age, this is no longer true, since there is a high degree of selection amongst those who stay on at school in the sixth form. The only way to obtain a truly representative sample after this age is to contact those members of classes who have left school. Tracing members of the selected classes is both a costly and time-consuming process, and was not possible within the scope of the present study. As an attempt to overcome the problem, classes from colleges of various types were used. Since many employers make block or day release attendance compulsory, selection pressures are assumed to be reduced, if not eliminated. It should be borne in mind, however, that the sample over the age of about 15 years is drawn from a more restricted population than that below this age, and that males tend to predominate in many of the 'technical' colleges and classes. Even in mixed colleges an approximately equal sex division does not always obtain. As a result, there is a shortage of females in the highest (17 years old) age group.

Procedure

In the first instance, each of the schools and colleges in the sample was contacted by a letter from the director of the Scottish Health Education Unit, in which the project was outlined. Head teachers and principals were asked to reply by means of an S.A.E., indicating whether they would be willing to participate in the study. Upon receipt of an affirmative reply, a further letter was sent, and a form enclosed on which numbers of classes and composition of classes was to be indicated. Suitable times were also sought on which an O.P.C.S. field worker could visit the school or college to select the appropriate classes and arrange details of the testing session.

A copy of instructions and procedure for field workers is included in Appendix 3.

*The sampling section was prepared and written by Brenda Hope, to whom sincere thanks are due.

STUDY OF ATTITUDES TOWARDS ALCOHOL USE AMONGST ADOLESCENTS IN SCHOOLS AND COLLEGES OF FURTHER EDUCATION

SAMPLE DESIGN

by Brenda Hope

1. Sample Requirements

The basic requirements of the sample design were:—

- i. obtain a representative random sample of secondary schools and further education colleges in Glasgow.
- ii. from within the selected primary units draw a representative random sample of young people in each of the following age groups 14 years, 15 years and 16/17 years.
- iii. take a representative random sample of classes at each age level.

2. Sample Design

The sample design was a two-stage multi-stratified one.

Stage I

The first stage consisted of a representative random sample of schools and further education colleges. These were stratified by school type, that is, education authority, grant-aided, independent and approved, and college type, that is, education authority and central institutions. Within type they were grouped by sex of population, that is, boys only, girls only and mixed.

Stage II

The second stage units were the classes or groups used for teaching purposes within the selected primary units.

3. Sample size

The total set sample size required was 2106 individuals distributed proportionally between schools and further education colleges, and equally between the three separate age groups (see paragraph Iii). The set sample size for each age group was to be approximately 700, to achieve about 500 interviews from each.

4. Sampling Frame

(1) There was no current sampling frame available from which the detailed information about schools and further education colleges could be obtained. For schools it was possible to obtain the following from the Scottish Education Department,

- (a) the names of all schools in Glasgow stratified by school type (see 2. Stage I)
- (b) the total number of boys and girls in each of the required age groups by school.

From the Scottish Educational Statistics 1968,

- (c) the age ratios in each separate school year for all schools in Scotland.
- (d) the percentage of each eligible age group (14, 15 and 16/17 year olds) found in each school year for all schools in Scotland.

(2) For further education colleges there was only a limited amount of data available. This was compiled by the Scottish Education Department and consisted of the following,

- (a) the names of all colleges grouped according to type, that is, educational establishments, central institutions and voluntary bodies.
- (b) the total number of males and females in the three age groups, under 16 years, 16 years and 17 years, for every college.

5. Problems Associated with Designing the Sample

(1) Classes and age levels are not necessarily the same thing especially in the 15+ age group in schools and for all age groups in colleges. This presented difficulties because either classes or age groups would be sampled, but it was virtually impossible to combine the two.

(2) There would be some difficulty in trying to define a 'class', particularly for the 15+ age group in schools and for most groups in colleges, as these tend to be flexible with constant movement between groupings.

(3) There were no data available about the average size of groups used for teaching purposes within colleges. This meant that no estimates of class or group size could be given until the further education colleges had been selected, and had agreed to co-operate with the enquiry*. An alternative method of sampling would involve eliminating classes or groups as second-stage units by going direct from the first stage units to a sample of individuals. This however would involve taking a proportion of individuals from each eligible class and forming them into a group for the purpose of completing the questionnaire. This was not pursued because it would present considerable organizational problems for both schools and colleges.

(4) The primary units could be selected with probability proportional to the size of the eligible population or with unit probability. Selecting with probability proportional to size would involve taking a set sample of equal numbers from within each primary unit. For interviewing purposes complete classes had to be selected. As class size was expected to vary considerably within and between primary units it would be difficult to achieve equal numbers in each school or college. However, selection with uniform probability would enable a variable number of eligible individuals to be selected from within each primary unit. This was a more satisfactory method because it would be unnecessary to achieve equal numbers in each school or college.

6. Sampling Procedure

The total eligible population in Glasgow schools and colleges was distributed as shown in Table 1.

*The research officers at Strathclyde university wanted to avoid contacting further education colleges to obtain basic information before the sample was drawn.

(1) TABLE I

	Population in schools and colleges			
	1 14 year olds	2 15 year olds	3 16/17 year olds	4 Total
Schools	15 426	6929	7258	29 613
Colleges	—	1095	7655	8750
Total	15,426	8024	14 913	38 363

Source: Returns made to Scottish Education Department from Schools (in 1969) and Colleges (in 1968/9).

It was necessary to obtain approximately equal numbers in each age group, therefore a weight of two had to be applied to the population of 15 year olds. This weight enabled comparisons to be made between the two different age groups at the analysis stage. Table II gives the population (taken from Table I) after the weight of two had been applied to the population of 15 year olds.

(2) TABLE II
Theoretical distribution of weighted sample population

	14 year olds (weighted $\times 1$)	15 year olds (weighted $\times 2$)	16/17 year olds (weighted $\times 1$)	Total (weighted)
Schools	15·426 (33·26%)	13·858 (29·87%)	7258 (15·65%)	36·542 (78·78%)
Colleges	—	2190 (4·72%)	7655 (16·50%)	9845 (21·22%)
Total	15·426 (33·26%)	16·048 (34·60%)	14·913 (32·14%)	46·387 (100%)

For analysis involving the total sample a weight (the reciprocal of that in Table II) had to be applied to make the distribution of young people between the age groups the same as the distribution of all 14, 15 and 16/17 year olds in Glasgow.

As indicated in Table II 78·78% of the set sample would be in schools and 21·22% in colleges. Therefore, the size of the school sample=

$$\frac{78.78}{100} \times 2106 = 1659 \text{ individuals}$$

Therefore, the size of the college sample=

$$\frac{21.22}{100} \times 2106 = 447 \text{ individuals}$$

(3) Table III gives the expected distribution of the weighted sample by age and schools and colleges, applying percentages from Table II.

TABLE III

	1	2	3	4
	14 year olds (weighted $\times 1$)	15 year olds (weighted $\times 2$)	16/17 year olds (weighted $\times 1$)	Total (weighted)
Schools	700	629	330	1659
Colleges	—	100	347	447
Total	700	729	677	2106

Therefore the probability of selection of each 14 year old is,

$$\frac{700}{15\,426} \left(\frac{\text{Table III col. 1}}{\text{Table I col. 1}} \right) = \frac{1}{22.03}$$

of each 16/17 year old,

$$\frac{677}{14\,913} \left(\frac{\text{Table III col. 3}}{\text{Table I col. 3}} \right) = \frac{1}{22.03}$$

and of each 15 year old

$$\frac{729}{8024} \left(\frac{\text{Table III col. 2}}{\text{Table I col. 2}} \right) = \frac{1}{11}$$

7. Sample design for schools

(1) It was necessary to provide an estimate of the average class size in schools as this would influence the number of primary units selected.

The Scottish Education Statistics for 1968 gave an average class size as taught for education authority and grant aided schools in Glasgow. These range from 14.2 persons to 25.2 persons per class. It was decided to base the estimates on 25.2 persons per class as this would achieve a lower estimated figure of eligible

TABLE IV
Estimated average number of classes per school using unweighted population figures

Ages	Number of classes	Average number of classes per school
14 years	$\frac{15.426 \text{ (school pop.)}}{25.2^1 \text{ (av. class size)}} = 612.14$	$\frac{612.14 \text{ (classes)}}{79^2 \text{ (no. schools)}} = 7.75$
15 years	$\frac{6929 \text{ (school pop.)}}{25.2^1 \text{ (av. class size)}} = 274.96$	$\frac{274.96 \text{ (classes)}}{75^2 \text{ (no. schools)}} = 3.67$
16/17 years	$\frac{7258 \text{ (school pop.)}}{25.2^1 \text{ (av. class size)}} = 288.02$	$\frac{288.02 \text{ (classes)}}{68^2 \text{ (no. schools)}} = 4.24$
		Total number of classes per school = 15.66

classes per school than would 14.2. Doing this would achieve a smaller sampling fraction for classes within schools, and thus there would be a greater chance of achieving on average a minimum of 4 eligible classes in all schools, including those with a small eligible population.

1. As described in paragraph 7(1) above.
2. Total number of schools in Glasgow containing individuals in the relevant age group.

Therefore, to achieve an average of 4 classes per school the overall sampling fraction for classes within schools was as follows,

$$\frac{4}{15.66 \left(\begin{array}{l} \text{average number of classes required per school} \\ \text{average number of eligible classes per school see Table IV} \end{array} \right)} = \frac{1}{3.91}$$

rounded up to $\frac{1}{4}$.

However, as classes containing mainly 15 year olds were to be weighted up by 2 the following applied,

- (a) classes containing mainly 14, 16 and 17 year olds were sampled at an interval of $\frac{1}{4}$.
- (b) classes containing mainly 15 year olds were sampled at an interval of $\frac{1}{2}$.

(2) Sampling fraction used for selecting schools

Let the probability of selection of any one school be F. The probability of selection of 14, 16 and 17 year olds was $\frac{1}{22} (X^i)^*$ and of weighted 15 year olds

$$\frac{1}{11} (X^{ii})^*.$$

The probability of selecting classes containing 14, 16 and 17 year olds was $\frac{1}{4} (F^i)$ and of classes containing mainly 15 year olds $\frac{1}{2} (F^{ii})$.

Therefore, the sampling fraction used for selecting schools was F where:

- (a) for 14, 16 and 17 year olds

$$F \times F^i = X^i \text{ which equals } F \times \frac{1}{4} = \frac{1}{22}$$

Therefore, $F = 5.5$

- (b) for 15 year olds

$$F \times F^{ii} = X^{ii} \text{ which equals } F \times \frac{1}{2} = \frac{1}{11}$$

Therefore, $F = 5.5$

- (c) from a total of 79 schools select 1 in 5.5

$$\text{There, number of school selected} = \frac{79}{5.5} = 14.$$

$$*X^i = \frac{1}{22} \quad X^{ii} = \frac{1}{11}$$



TABLE V

Distribution of eligible population in schools in Glasgow by school type and sex of population within schools

	Education Authority			Grant-aided			Independent			Approved		Total	
	No. Pupils	%	No. schools	No. Pupils	%	No. schools	No. Pupils	%	No. schools	%	No. schools	%	No. schools
Mixed	22 908	77.36	58	362	1.22	1	—	—	—	—	—	23 270	78.58
Boys only	2064	6.97	4	944	3.19	3	335	1.13	1	0.95	3	3624	12.24
Girls only	1750	5.91	4	969	3.27	5	—	—	—	—	—	2719	9.18
Total	26 722	90.24	66	2275	7.68	9	335	1.13	1	0.95	3	29 613	100

TABLE VI

Expected¹ distribution of sample individuals (1.659) and expected and actual² distribution of primary units (1.4)

School type Sex of School population	Education Authority			Grant-Aided			Independent			Approved			Total	
	Expected	Individuals	PU's	Expected	Individuals	PU's	Expected	Individuals	PU's	Expected	Individuals	PU's	Expected	Actual
Mixed	1283	10.83	10	20	0.17	0	—	—	—	—	—	—	1303	11
Boys only	115	0.97	1	53	0.45	1	18	0.16	—	16	0.13	—	203 ^a	1.71
Girls only	98	0.83	1	54	0.46	1	—	—	—	—	—	—	153 ^a	1.28
Total	1497 ^a	12.63	12	127	1.08	2	18	0.16	—	16	0.13	—	1659 ^a	14

¹Expected distribution of sample according to % distribution of eligible population in Glasgow schools as given in Table V.²Actual distribution of primary units is the number of units sampled from each school type after the expected distribution had been rounded to whole numbers.^aDiscrepancy of 1 due to rounding of expected individuals to nearest whole number.

(3) The possibility of using two stratification factors was considered but as shown in Table V the small population in some cells made this impossible. The independent school and three approved schools presented additional problems because they were only a small part of the total population, and to ensure these schools were correctly represented they could not be sampled in the same way as education authority and grant-aided schools. Therefore school type, that is education authority, grant-aided and independent/approved was used as a stratification factor.

(4) Schools were sampled in the following way:

- (a) education authority and grant-aided schools (total 75) were treated as two separate strata. Within each stratum the schools were listed in the following groups; mixed, boys only and girls only. Schools were sampled from each stratum by going through at an interval of 5.5 from a random start. This achieved 12 education authority schools and 2 grant-aided. See Table VI.

8. Sample design for Further Education Colleges

The expected distribution of the weighted sample by age within colleges is shown in Table II above.

(1) The sampling fraction for selecting further education colleges was arrived at in the following way:

Let the probability of selection of any one college be f . The probability of selection of 14 and 16/17 year olds was $\frac{1}{22}(x^i)$, and of weighted 15 year olds $\frac{1}{11}(x^{ii})^1$.

Let the probability of selection of classes or teaching groups containing mainly 16/17 year olds be f^i and of classes containing mainly 15 year olds $f^i b^{ii}$.

Therefore, the sampling fraction for selecting colleges was f where:

(i) for 16/17 year olds

$$f \times f b^i = \frac{1}{22}$$

(ii) for 15 year olds

$$f \times f b^{ii} = \frac{1}{11}$$

Therefore, it was necessary to decide

- the sampling fraction for selection colleges (f)
- the sampling fraction for individuals within colleges ($f b$)

Total number of colleges from which sample drawn = 15.

Therefore, the two reasonable choices about the size of f were,

¹For detailed explanation see paragraph 6(3) above.

- (iv) let $f = \frac{1}{3}$ to achieve 5 colleges,
 (v) let $f = \frac{1}{5}$ to achieve 3 colleges.

It was decided that 5 colleges would provide sufficient information for analysis. Fewer than 5 would present difficulties in the event of one or more refusals, and more than 5 would have increased the sampling interval within colleges, and have dispersed the sample too widely.

Therefore, the probability of selecting colleges, and classes within these was,

$$(vi) \text{ for 16/17 year olds} = \frac{1}{3} \times \frac{1}{22} = \frac{1}{66}$$

$$\therefore fb^i = \frac{1}{22} \times \frac{3}{7.3} = \frac{1}{57.3}$$

$$(vii) \text{ for 15 year olds} = \frac{1}{3} \times \frac{1}{11} = \frac{1}{33}$$

$$\therefore fb^{ii} = \frac{1}{11} \times \frac{3}{3.7} = \frac{1}{11.1}$$

Therefore, within the sampled colleges 1 in 7.3 classes containing 16/17 year olds, and 1 in 3.7 containing 15 years olds, were taken.

(2) Colleges were sampled in the following way:

Education authority establishments and central institutions were treated as two separate strata. Within each stratum colleges were listed in the following groups, mixed, boys only and girls only. Colleges were selected from each stratum by going through at an interval of 3 from a random start.

9. Set and Achieved Sample of Schools and Colleges

(1) The set sample consisted of 14 schools and 5 colleges. These received a letter from the Scottish Health Education Unit explaining the purpose of the enquiry and asking if they were willing to co-operate¹. Ten schools and 4 colleges agreed to participate. Two schools refused on religious grounds and two because pupils were preparing for examinations and so could not give up valuable study time. The college which refused did so because it had a very small eligible population which did not wish to participate.

Social Survey Division sent a letter to each co-operating school and college, explaining the sample, together with a form onto which they were asked to give the names of the classes/groups containing eligible students and the total number of pupils in each class². It was relatively easy for schools to identify eligible classes by name, but in colleges where age is not the prime grouping factor

¹See Appendix.

²See Appendix.

this presented difficulties. It was realized that there would be some problems in colleges and this is why they received different forms from the ones sent to schools³. Two selected colleges had very large eligible populations, and in the time available it was impossible for these colleges to supply details of all the eligible groups. Therefore, they supplied the names of 25 groups which were known to contain the various age groups required⁴.

(2) Set sample size after selection of classes/teaching groups.

In schools classes containing mainly 14 and 16/17 year olds were sampled at an interval of $\frac{1}{4}$ and those containing mainly 15 year olds at an interval of $\frac{1}{2}$. One in 7.3 groups in colleges which contained mostly 16/17 year olds were selected, and 1 in 3.7 containing mostly 15 year olds.

The sample of classes/groups produced the following number of individuals,

14 year olds	=	641
15 " "	=	626
16/17 year olds	=	377
Total		1644

The 16/17 age group was deficient for the following reasons,

- in two selected colleges it was not possible to draw the sample from the total eligible groups. See paragraph 9(1) above.
- the size of the eligible populations in the colleges, as obtained from the information supplied by colleges, was smaller than given in the 1968/9 figures for colleges from which Social Survey estimates were prepared.

One means of compensating for this deficiency would have been to increase by 2 the probability of selection of classes. This was tried but unfortunately achieved over 800 16/17 year olds. Using a group of this size would have increased to an unmanageable size the number of second stage units within some schools/colleges, and would have involved re-weighting at the analysis stage. Therefore, the set sample of 16/17 year olds remained at 377.

10. Achieved Sample

TABLE VII
Achieved sample after completion of fieldwork

Set Sample Corrected to ¹	No. Pupils	%
	1644	100 ²
Dealt with	1607	100
Ineligible: 19 year olds+	20	1
Eligible	1587	99
Interviews	1337	83
Refusals	1	0
Non-contacts	249	16

Some actual class sizes, when interviewers arrived at the schools/colleges, were different from the ones the schools/college gave to sampling branch.

¹ All percentages rounded to nearest whole number.

² See Appendix.

⁴ The 25 groups supplied contained 450 eligible young people. The total eligible population in these colleges at 1968/9 was 2549.

APPENDIX 5

Letters to principals and head teachers

LETTER FROM SCOTTISH HEALTH EDUCATION UNIT

Dear Principal

STUDY OF ATTITUDES TOWARDS ALCOHOL USE AMONGST ADOLESCENTS IN SCHOOLS AND COLLEGES OF FURTHER EDUCATION

The Scottish Health Education Unit has recently commissioned a study of certain aspects of alcohol use amongst adolescents in Glasgow. The research is being carried out by the Department of Psychology, Strathclyde University, in collaboration with the Social Survey Division of the Office of Population Censuses and Surveys. The Glasgow Education Department has approved the scheme, and given permission for approaches to be made to individual head-teachers and principals in connection with this project.

The object of the study is to obtain information about the pattern of teenage drinking, and the attitudes of young people to alcohol use. It is hoped that these findings might have implications for future programmes of health education.

For the project, a sample of young people (both sexes) is required, aged from 14 to 17 years in *schools*, and from 15 to 17 years in *colleges*. Testing will take place between the end of February and the end of March, 1971.

We would very much appreciate your help in this endeavour. If you agree, members of certain classes in your college will be asked to complete a set of questionnaires. The questionnaires are administered to entire classes by specially trained teams of workers, so no work is involved for members of your own teaching staff. All information received is absolutely anonymous, and is treated as strictly confidential. Final results will be presented in the form of a report.

I appreciate that the testing sessions may involve a certain amount of organisation on your part, but I very much hope that you will feel able to help us with this enquiry.

I look forward to receiving your answer, which you will note from the stamped addressed envelope enclosed has to be sent in the first instance to London.

Yours faithfully

DR. A. YARROW.

LETTER FROM SCOTTISH HEALTH EDUCATION UNIT

Dear Head-teacher

STUDY OF ATTITUDES TOWARDS ALCOHOL USE AMONGST ADOLESCENTS IN SCHOOLS AND COLLEGES OF FURTHER EDUCATION

The Scottish Health Education Unit has recently commissioned a study of certain aspects of alcohol use amongst adolescents in Glasgow. The research is being carried out by the Department of Psychology, Strathclyde University, in collaboration with the Social Survey Division of the Office of Population Censuses and Surveys. The Glasgow Education Department has approved the scheme, and given permission for approaches to be made to individual head-teachers and principals in connection with this project.

The object of the study is to obtain information about the pattern of teenage drinking, and the attitudes of young people to alcohol use. It is hoped that these findings might have implications for future programmes of health education.

For the project, a sample of young people (both sexes) is required, aged from 14 to 17 years in *schools*, and from 15 to 17 years in *colleges*. Testing will take place between the end of February and the end of March, 1971.

We would very much appreciate your help in this endeavour. If you agree, members of certain classes in your school will be asked to complete a set of questionnaires. The questionnaires are administered to entire classes by specially trained teams of workers, so no work is involved for members of your own teaching staff. All information received is absolutely anonymous, and is treated as strictly confidential. Final results will be presented in the form of a report.

I appreciate that the testing sessions may involve a certain amount of organisation on your part, but I very much hope that you will feel able to help us with this enquiry.

I look forward to receiving your answer, which you will note from the stamped addressed envelope enclosed has to be sent in the first instance to London.

Yours faithfully

DR. A. YARROW.

Name of College

Classes containing not less than 25% 15 year olds (age at 1 February 1971)

Form/group identity											Total
No. of 15 yr. olds on roll											

Classes containing not less than 25% 16 year olds (age 1 February 1971)

Form/group identity											Total
No. of 16 yr. olds on roll											

Classes containing not less than 25% 17 year olds (age 1 February 1971)

Form/group identity											Total
No. of 17 yr. olds on roll											

N.B. In the form/group identity boxes will you please indicate the name or identity letter of the form or group.



Office of Population Censuses and Surveys

Social Survey Division

Atlantic House Holborn Viaduct London EC1N 2PD

Telephone 01-583 8931 ext.

Please reply to
Your reference

Our reference

Date

Dear Principal

STUDY OF ATTITUDES TOWARDS ALCOHOL USE AMONGST ADOLESCENTS IN
SCHOOLS AND COLLEGES OF FURTHER EDUCATION

You were contacted recently by Dr Yarrow of the Scottish Health Education Unit in connection with an enquiry being made by his unit into the attitudes of adolescents towards alcohol use. I believe he has already mentioned that part of the enquiry is being undertaken by the Social Survey Division. The work of obtaining a representative sample in a few selected schools and colleges is being carried out by Sampling Branch of the Social Survey Division.

The preliminary part of the enquiry involves obtaining information about the number of pupils who will be in the following separate age groups, 15, 16 and 17 years old on 1 February 1971. From the colleges we would like to draw a sample of classes containing eligible individuals. However, in order to select classes it will be necessary to know the number of separate classes which for teaching purposes contain mostly 15 year olds, 16 year olds or 17 year olds. If it is possible for you to supply this information could you complete the attached sheet. I realize that some pupils may be grouped by factors other than age. If this is the case perhaps you could let me know if there is a suitable means by which groups of pupils in the age groups stated above could be sampled. If it is possible to give details of these groupings on the attached sheet I would be most grateful.

We would like to carry out the interviewing stage on the premises of the selected colleges because there is evidence that variations in the administration of questionnaires and differences in the situations in which work is carried out can influence the answers that students give. Also, such questions should be presented in written form and answered anonymously. As in all Social Survey enquiries, any information obtained is treated as strictly confidential, and no names of colleges will be mentioned in any reports of the results. It will be unnecessary for us to record the names of the young people who take part.

A member of our interviewing staff will be contacting you in January to discuss with you the possibility of seeing the selected classes later in the term. She will explain at that time the help we would like from you in making the students available for approximately two teaching periods before the end of the term. If there are any questions you wish to raise in connection with the sampling aspects of this survey, I shall be pleased to deal with them.

I look forward to receiving the completed form from you in the near future.

Yours sincerely,

Brenda Hope (Mrs.)
Social Survey Offices,
Sampling Branch



Office of Population Censuses and Surveys

Social Survey Division

Atlantic House Holborn Viaduct London EC1N 2PD

Telephone 01-583 8931 ext

Please reply to

Your reference

Our reference

Date 11 December 1970

Dear Head Teacher

STUDY OF ATTITUDES TOWARDS ALCOHOL USE AMONGST ADOLESCENTS IN
SCHOOLS AND COLLEGES OF FURTHER EDUCATION

You were contacted recently by Dr Yarrow of the Scottish Health Education Unit in connection with an enquiry being made by his unit into the attitudes of adolescents towards alcohol use. I believe he has already mentioned that part of the enquiry is being undertaken by the Social Survey Division. The work of obtaining a representative sample of young people in a few selected schools and colleges is being carried out by Sampling Branch of the Social Survey Division.

The preliminary part of the enquiry involves obtaining information about the number of children in all 3rd, 4th, 5th and 6th year forms. From the schools we would like to draw a sample of complete classes for interview. In order to select classes it is necessary to know the number of pupils in each of the separate years mentioned above. I would, therefore, be extremely grateful if you could complete the enclosed form and return it to me at your earliest convenience.

We would like to carry out the interviewing stage on the premises of the selected schools because there is evidence that variations in the administration of questionnaires and differences in the situations in which work is carried out can influence the answers that children give. Also, such questions should be presented in written form and answered anonymously. As in all Social Survey enquiries, any information obtained is treated as strictly confidential, and no names of schools will be mentioned in any reports of the results. It will be unnecessary for us to record the names of the children who take part.

A member of our interviewing staff will be contacting you in January to discuss with you the possibility of seeing the selected classes later in the term. She will explain at that time the help we would like from you in making the students available for approximately two teaching periods before the end of the term. If there are any questions you wish to raise in connection with the sampling aspects of this survey, I shall be pleased to deal with them.

I look forward to receiving the completed form from you in the near future.

Yours sincerely

Brenda Hope (Mrs)
Social Survey Officer
Sampling Branch

APPENDIX 6

Additional Tables

1. Age \times Sex

<i>Age</i>	<i>Males</i>	<i>Females</i>
14	123	147
15	228	222
16	233	128
17	217	23
	<hr/> 801	<hr/> 520

2. Occupational status \times Sex

<i>Occupational status*</i>	<i>Males</i>	<i>Females</i>
<hr/> 1	<hr/> 51	<hr/> 19
2	172	83
3	412	313
4	128	75
5	38	30
	<hr/> 801	<hr/> 520

3. Religious affiliation \times Sex

	<i>Males</i>	<i>Females</i>
Baptist	7	14
C. of S.	254	172
Episcopalian	11	5
Jewish	20	3
Methodist	10	9
R.C.	176	143
Other	25	19
	<hr/> 503	<hr/> 365

*As defined by the Registrar General's classification of occupations.

4. Non-smokers, ex-smokers, and smokers, tabulated by age and sex

<i>Age</i>	<i>Non-smokers</i>		<i>Ex-smokers</i>		<i>Smokers</i>	
	<i>Males</i>	<i>Females</i>	<i>Males</i>	<i>Females</i>	<i>Males</i>	<i>Females</i>
14	26	40	63	62	33	46
15	67	58	111	112	51	51
16	52	36	104	61	76	31
17	43	5	90	13	85	5
	188	139	368	248	245	133

5. Numbers of males and females answering 'Yes' or 'No' to questions Q3. 7A, Q3. 7B., Q3. 7C, and Q3. 7D

Q3. 7A—Have you received any information or had any lessons or discussions about the effects of smoking, whilst you were at school or college?

	<i>Males</i>	<i>Females</i>
<i>Yes</i>	307	192
<i>No</i>	494	328

Q3. 7B—Do you believe there is a connection between smoking and illness?

	<i>Males</i>	<i>Females</i>
<i>Yes</i>	759	486
<i>No</i>	42	34

Q3. 7C—Do you believe that you yourself could get lung cancer from smoking?

	<i>Males</i>	<i>Females</i>
<i>Yes</i>	665	434
<i>No</i>	136	86

Q3. 7D—Does the danger of lung cancer put you of smoking?

	<i>Males</i>	<i>Females</i>
<i>Yes</i>	465	342
<i>No</i>	336	178

6. Numbers of males and females answering 'Yes' or 'No' to questions Q3. 9A and Q3. 9B

Q3. 9A—Have you received any information, or had any lessons or discussions about alcohol and drinking, whilst you were at school or college?

	<i>Males</i>	<i>Females</i>
<i>Yes</i>	138	81
<i>No</i>	663	439

Q3. 9B—Have you ever received any information about alcohol and drinking from any of the following people?

		<i>Males</i>	<i>Females</i>
(i) A doctor or nurse	<i>Yes</i>	48	32
	<i>No</i>	753	488
(ii) A teacher	<i>Yes</i>	171	95
	<i>No</i>	630	425
(iii) A person from the Church	<i>Yes</i>	112	110
	<i>No</i>	689	410
(iv) A special health adviser	<i>Yes</i>	39	35
	<i>No</i>	762	485

7. Numbers consuming alcohol in each of the three main drinking situations, by age and sex

(a) *In the home of parents or adult relatives*

Age	<i>Males</i>		<i>Females</i>	
	Number	% of total	Number	% of total
14	105	85.4	114	77.6
15	205	89.9	182	82.0
16	213	91.4	107	83.6
17	200	92.2	18	78.3

(b) *In the home of a friend*

Age	<i>Males</i>		<i>Females</i>	
	Number	% of total	Number	% of total
14	63	51.2	78	53.1
15	136	59.6	136	61.3
16	181	77.7	80	62.5
17	192	88.5	18	78.3

(c) *In a place other than someone's home*

Age	<i>Males</i>		<i>Females</i>	
	Number	% of total	Number	% of total
14	65	52.8	62	42.2
15	136	59.6	102	45.9
16	179	76.8	69	53.9
17	198	91.2	14	60.9

APPENDIX 7

Questionnaire battery

_____ AREA

_____ NUMBER



UNIVERSITY OF STRATHCLYDE

School of Arts and Social Studies, Glasgow, C.1.

SURVEY OF TEENAGE INTERESTS AND ACTIVITIES

On the following pages you will find many questions. The questions concern the ways in which young people spend their spare time, the kind of things they like or do not like, and what they think about certain things. We would like you to help us by answering these questions, so that we can find out what young people are really like, how they think, and what they feel.

Remember that WE DO NOT KNOW WHO YOU ARE, and that your answers are PRIVATE and CONFIDENTIAL. Please be as frank and truthful as you can - but do not boast.

Be careful not to miss out any questions that you should have answered.

Questionnaire 1

To start with, please tell us a little bit about yourself.

Read each question carefully. THEN PUT A TICK BY THE ANSWER WHICH IS RIGHT FOR YOU.

1. How old are you? (tick one)
 - (i) 13 years
 - (ii) 14 years
 - (iii) 15 years
 - (iv) 16 years
 - (v) 17 years
 - (vi) 18 years
 - (vii) 19 years

2. What sex are you? (tick one)
 - (i) male (boy)
 - (ii) female (girl)

3. How many brothers and sisters do you have altogether? (tick one)
 - (i) 0
 - (ii) 1 or 2
 - (iii) 3 or 4
 - (iv) 5 or more

4. How good would you say you were at school work or college work? (tick one)
 - (i) better than most
 - (ii) above average
 - (iii) about average
 - (iv) below average
 - (v) not much good

5. Read through the following list of things that young people do, and put a tick in the column that shows how often you do each thing.

	Frequently	Rarely	Never
(i) Go to the pictures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(ii) Play a sport for a school or club team	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(iii) Go out with the rest of the family	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(iv) Stay at home all evening, with the family	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(v) Do a part-time job	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(vi) Go fishing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(vii) Go cycling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(viii) Go to a youth club	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(ix) Go to a party	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(x) Go to a dance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. Here is another short list of things that teenagers sometimes do. Tick each one to show how often you do it.

	Frequently	Rarely	Never
(i) Collect "pop" or "folk" records			
(ii) Paint pictures or make models			
(iii) Read a book			
(iv) Collect "classical" or "jazz" records			
(v) Write poetry or stories			
(vi) Woodwork			
(vii) Knitting or sewing			
(viii) Build radios, or other electrical gear			
(ix) Practice a musical instrument			

(Write which instrument here)

7. When you decide to go out somewhere, who do you usually go out with?
(tick one)

- (i) alone
(ii) a friend of the same sex
(iii) a friend of the opposite sex
(iv) a group of boys
(v) a group of girls
(vi) a mixed group of boys and girls

8. How much money, to save or spend, do you receive each week?
Include any earnings you may have, plus whatever your parents may give you.

(tick one)

- (i) Less than 5/-
(ii) 5/- to 9/11
(iii) 10/- to 19/11
(iv) £1 to £1/19/11
(v) £2 to £4
(vi) over £4

9. Put a tick in the columns below to show how you spend this money.

	Most of it	About half of it	A little of it	None of it
(i) About how much of your money do you spend on clothes each week? _____				
(ii) About how much of your money do you spend on cigarettes and/or alcoholic drinks? _____				
(iii) About how much of your money do you save each week? _____				
(iv) About how much of your money do you spend on going to dances, to the cinema, or to youth clubs? _____				

10. What is the name of the job that your father (or stepfather) does for a living? (Write down the name of his job)

.....

11. Now describe carefully what he does in his job.

.....

.....

.....

12. Does your mother (or stepmother) go out to work?

(i) Yes

(ii) No

If you answered "No", go on to question number 13.

If you answered "Yes", describe carefully the type of work she does.

.....

.....

.....

TO ALL

13. At what age do you expect to finish school or college, to work full-time?

(tick one)

(i) 15 - 16 years

(ii) 17 - 18 years

(iii) 19 - 20 years

(iv) over 20 years

14. About what age do you expect to get married?

(tick one)

(i) Under 20 years

(ii) 20 - 22 years

(iii) 23 - 25 years

(iv) over 25 years

(v) not at all

15. About how often do you go to Church, or some other place of worship? (tick one)

(i) more than once a week
(ii) about once a week
(iii) about once a month
(iv) a few times a year
(v) hardly ever
(vi) never

16. A Do you belong to any Church or religious group? (tick one)

(i) Yes
(ii) No

NOW! Answer question 16 B. ONLY if you answered "Yes" to question 16 A.

16. B Which Church or religious group do you belong to? (tick which one)

(i) Baptist
(ii) Church of Scotland
(iii) Episcopalian
(iv) Jewish
(v) Methodist
(vi) Roman Catholic
(vii) Some other Church (write which)
.....

TO BE ANSWERED BY EVERYONE

17. To what social class does your family belong? (tick one)

(i) upper class
(ii) middle class
(iii) skilled working class
(iv) unskilled working class
(v) don't know

18. To what social class do you expect to belong by the time you are 25 years old? (tick one)

(i) upper class
(ii) middle class
(iii) skilled working class
(iv) unskilled working class
(v) don't know

Questionnaire 2(a)

You have already told us something about yourself, and the kind of things you do. Now we would like to know what kind of person you are.

Here is a PRACTICE QUESTION about
the kind of person you are.

Dare to take risks ☐ ☐ ? ☐ ☐ Want to be safe

If you are the kind of person who dares to take risks, put a tick in the box at the far left, like this:

Dare to take risks ☒ ☐ ? ☐ ☐ Want to be safe

If you are the kind of person who wants to be safe, put a tick in the box at the far right like this:

Dare to take risks ☐ ☐ ? ☐ ☒ Want to be safe

Most people know which of these two kinds of person they are: but if you cannot decide, put a tick in one of the centre boxes. Use the left centre box if you tend to take risks, like this:

Dare to take risks ☐ ☒ ? ☐ ☐ Want to be safe

If you tend to want safety, use the right centre box, like this:

Dare to take risks ☐ ☐ ? ☒ ☐ Want to be safe

If you really cannot decide what kind of person you are, put a circle round the question mark, like this:

Dare to take risks ☐ ☐ ☐ ☒ ☐ Want to be safe

The question above was just a PRACTICE QUESTION. Now, tick each of the questions on the next page, using the box which is right for THE KIND OF PERSON YOU ARE.

The kind of person I ACTUALLY AM

1. Happy	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Sad
2. Rough	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Gentle
3. Have a lot of friends	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Have a few friends
4. Usually successful	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Usually unsuccessful
5. Interested in the opposite sex	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Not interested in the opposite sex
6. Relaxed	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Tense
7. Hard	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Not so hard
8. Good at schoolwork	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Not so good at schoolwork
9. Like to do forbidden things	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Do not like to do forbidden things
10. Attractive	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Not so attractive
11. Easy going	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Take life rather seriously
12. Smart and tidy	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Not very smart and tidy
13. Sharp	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Dull
14. Act on the spur of the moment	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Stop to think before acting
15. Able to attract members of the opposite sex	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Do not attract members of the opposite sex

Questionnaire 2(b)

NOW STOP, AND READ THE
INSTRUCTIONS BELOW CAREFULLY

In the last part, you told us about
the kind of person you actually are.

NOW THINK ABOUT THE KIND OF
PERSON YOU WOULD LIKE TO BE.

The questions are the same, but this time we
want to know about the kind of person you would like
to be. This may be different from the kind of person
you are, so think carefully.

Now, tick each of the questions on the next page,
using the box which is right for the kind of person you
would like to be.

The kind of person I WOULD LIKE TO BE

1. Happy	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Sad
2. Rough	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Gentle
3. Have a lot of friends	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Have a few friends
4. Usually successfully	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Usually unsuccessful
5. Interested in opposite sex	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Not interested in opposite sex
6. Relaxed	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Tense
7. Hard	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Not so hard
8. Good at schoolwork	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Not so good at schoolwork
9. Like to do forbidden things	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Do not like to do forbidden things
10. Attractive	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Not so attractive
11. Easy going	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Take life rather too seriously
12. Smart and tidy	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Not very smart and tidy
13. Sharp	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Dull
14. Act on the spur of the moment	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Stop to think before acting
15. Able to attract members of the opposite sex	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Do not attract members of the opposite sex

Questionnaire 3

In the first questionnaire, you told us something about yourself and your family. Now we would like to know a little about the kinds of things you and your friends do from time to time. Remember, we do not know who you are, so please be as frank and truthful as you can - but do not boast.

1. Imagine you have gone out somewhere with your friends, and there are no parents or adults with you. Then put a tick below to show about how many of your friends would smoke cigarettes.

(tick one)

- (i) Almost all of them
(ii) About half of them
(iii) About a quarter of them
(iv) None of them

2. Have you ever tried smoking a cigarette?

(tick one)

- (i) Yes
(ii) No

Now, read the following instructions CAREFULLY

If you answered "Yes" (HAVE TRIED SMOKING) at question 2, answer question 3, over
page

If you answered "No" (HAVE NEVER TRIED SMOKING) at question 2, go straight to question 7 - the blue coloured schedule.

For people who HAVE TRIED a cigarette

3. Have you smoked a cigarette more than once?

(tick one)

- (i) I have tried a cigarette once
(ii) I have tried a cigarette more than once

4. About how many cigarettes do you smoke now?

(tick one)

- (i) None
(ii) About 1 per week or less
(iii) Between 2 and 4 per week
(iv) About 5 to 10 per week
(v) 11 to 20 per week
(vi) 21 to 40 per week
(vii) Over 40 per week

Now read these instructions carefully.

IF YOU SMOKED AT ONE TIME BUT NOT NOW answer question 5.

IF YOU SMOKE NOW go straight to next page and answer question 6.

5. IF YOU SMOKED AT ONE TIME BUT NOT NOW

How many cigarettes did you USED TO smoke?

(tick one)

- (i) I only tried a cigarette once
(ii) About 1 per week or less
(iii) Between 2 and 4 per week
(iv) About 5 to 10 per week
(v) 11 to 20 per week
(vi) 21 to 40 per week
(vii) Over 40 per week

Now go to question 6.

6. How, in what way, do you usually get your cigarettes?
(If you have given up smoking, put a tick to show how
you used to get your cigarettes).

(tick one)

- (i) I buy them in a shop
(ii) I get them from my brother or sister
(iii) I get them from my mother or father
(iv) I get them from friends
(v) I get them from a slot machine
(vi) I get them in some other way

TO BE ANSWERED BY EVERYONE

7. A Have you received any information, or had any lessons
or discussions about the effects of smoking, whilst
you were at school or college?

(tick one)

- (i) Yes
(ii) No

- B Do you believe there is a connection between smoking and
illness?

(tick one)

- (i) Yes
(ii) No

- C Do you believe that you yourself could get lung cancer
from smoking?

(tick one)

- (i) Yes
(ii) No

- D Does the danger of lung cancer put you off smoking?

(tick one)

- (i) Yes
(ii) No

8. Some people are known as 'alcoholics'. Below is a list of statements about alcoholics, and alcohol in general. Read each item and put a tick in the box to show whether you think it is TRUE or FALSE.

	TRUE	FALSE
(i) An alcoholic is a person who is always drunk		
(ii) Alcoholics can be useful members of society		
(iii) Anyone who drinks can become an alcoholic		
(iv) People who frequently get drunk are alcoholics		
(v) An alcoholic is a person who has no will-power		
(vi) Alcoholism is an illness and requires medical treatment		
(vii) It's usually <u>unintelligent</u> people who become alcoholics		
(viii) Drinking alcohol makes you weak and unfit		
(ix) Drinking is more dangerous than smoking		
(x) Drinking is a waste of money		

9. A Have you received any information, or had any lessons or discussions about alcohol and drinking, whilst you were at school or college?
(tick one)

(i) Yes xxxx

(ii) No xxxx

- B Have you ever received any information about alcohol and drinking from any of the following people? (tick each one "Yes" or "No").

	Yes	No
(i) A doctor or a nurse		
(ii) A teacher		
(iii) A person from the Church ..		
(iv) A special health adviser ..		

10. Imagine you have gone out somewhere with your friends, and there are no parents or adults with you. Then put a tick below to show about how many of your friends would have an alcoholic drink.

(tick one)

- (i) Almost all of them
(ii) About half of them
(iii) About a quarter of them
(iv) None of them

11. Have you ever tasted an alcoholic drink?

(tick one)

- (i) Yes
(ii) No

Now read these instructions carefully

IF YOU ANSWERED "YES", HAVE EVER TASTED AN ALCOHOLIC
DRINK go to question 12 (over page)

IF YOU ANSWERED "NO", HAVE NEVER TASTED
go to question 22 (white pages)

FOR PEOPLE WHO HAVE EVER TASTED AN ALCOHOLIC DRINK

12. How old were you when you had your first taste of alcohol? (tick one)

- (i) 6 years old, or younger
 (ii) 7 - 8 years old
 (iii) 9 - 10 years old
 (iv) 11 - 12 years old
 (v) 13 - 14 years old
 (vi) 15 years old, or older

13. Who gave you your very first taste of alcohol? (tick one)

- (i) Parents
 (ii) An older brother
 (iii) An older sister
 (iv) A brother or sister not older than yourself
 (v) An adult, other than parents
 (vi) A boy or girl of your own age (apart
from brothers and sisters)
 (vii) An older boy or girl (apart from
 brothers and sisters)

14. Below is a short list of places where people sometimes go for drinks.
 Tick each one to show if you have ever had a drink there.

	Yes	No
(i) In your own home		
(ii) In the home of <u>adult</u> relatives or friends of your parents		
(iii) In a public house or hotel		
(iv) In the home of one of your own friends ...		
(v) At a dance		
(vi) In the open air somewhere, such as a street or a park		

15. A When was the last time you had a drink in your own home, or in the home of adult relatives or friends of your parents?

(tick one)

- (i) Within the last week
 (ii) Within the last month
 (iii) Within the last 3 months
 (iv) Over 3 months ago
 (v) Never

IF YOU HAVE NEVER HAD A DRINK IN YOUR OWN HOME OR THAT OF RELATIVES OR FRIENDS go straight to question 16.

IF YOU HAVE EVER HAD A DRINK OF ALCOHOL WHETHER IN YOUR OWN HOME or THE HOME OF ADULT RELATIVES OR FRIENDS OF YOUR PARENTS think of THE LAST TIME YOU HAD SUCH A DRINK OF ALCOHOL and answer the following questions (B-E) about it.

- B Was the occasion a special one (such as a birthday, New Year, or a celebration) or was it no special occasion?

(tick one)

- (i) special occasion
 (ii) no special occasion

- C Below you will find a list of people. Put ticks in the first column to show who was there. Then put ticks in the second column to show who you got your drinks from.

Who did you get your drinks from?			
Who was there?		TICK HERE	TICK HERE
(i) Parents			
(ii) Adults, <u>other than</u> parents			
(iii) An <u>older</u> sister			
(iv) An <u>older</u> brother			
(v) Brothers or sisters <u>of your own age, or younger</u>			
(vi) <u>Older</u> boys or girls (apart from brothers or sisters)			
(vii) Boys or girls <u>of your own age, or younger</u> (apart from brothers or sisters)			

- D Did you yourself go out to buy any drinks from a bar or off-licence on that occasion?

(tick one)

- (i) Yes
 (ii) No

E Below you will find a list of drinks. Put ticks in the first column to show what drinks you tried. Then put ticks in the second column to show how much you drank.

(Remember this is about the last time you had a drink in THE HOME OF ONE OF YOUR FRIENDS.)

How much did you drink on that occasion?					
What drinks did you try?		TICK HERE			
	TICK HERE	Less than 1 pint	About 1 or 2 pints	About 3 or 4 pints	Over 4 pints
(i) Shandy or cider					
(ii) Beer or lager					
(iii) Stout (Guinness, Mackeson etc.)					
		1 single	About 2 singles (or 1 double)	About 3 or 4 singles	Over 4 singles (or 2 doubles)
(iv) Whisky					
(v) Other spirits					
		1 glass	About 2 or 3 glasses	About 4 or 5 glasses	Over 5 glasses
(vi) Sherry, port, etc.					
(vii) Other wines					
(viii) Any other drinks					

16. A When was the last time you had a drink in the home of one of your friends?

(tick one)

- (i) within the last week
 (ii) within the last month
 (iii) within the last 3 months
 (iv) over 3 months ago
 (v) never

IF YOU HAVE NEVER HAD A DRINK IN THE HOME OF ONE OF YOUR FRIENDS go straight to question 17.

IF YOU HAVE EVER HAD A DRINK OF ALCOHOL IN THE HOME OF ONE OF YOUR FRIENDS think of THE LAST TIME YOU HAD SUCH A DRINK and answer the following questions (B-E) about it.

- B Was the occasion a special one (such as a birthday, New Year, or a celebration) or was it no special occasion?

(tick one)

- (i) special occasion
 (ii) no special occasion

- C Below you will find a list of people. Put ticks in the first column to show who was there. Then put ticks in the second column to show who you got your drinks from.

Who did you get your drinks from?			
Who was there?		TICK HERE	TICK HERE
(i) Parents			
(ii) Adults, <u>other than</u> parents			
(iii) An <u>older</u> brother			
(iv) An <u>older</u> sister			
(v) Brothers or sisters <u>of your own age, or younger</u>			
(vi) <u>Older</u> boys or girls (apart from brothers or sisters) ..			
(vii) Boys or girls <u>of your own age, or younger</u> (apart from brothers or sisters)			

- D Did you yourself buy any drinks from a bar or off-licence on that occasion?

(tick one)

- (i) Yes
 (ii) No

- E** Below you will find a list of drinks. Put ticks in the first column to show what drinks you tried. Then put ticks in the second column to show how much you drank.

(Remember this is about the last time you had a drink in YOUR OWN HOME,) or in the HOME OF ADULT RELATIVES OR FRIENDS OF YOUR PARENTS).

How much did you drink on that occasion?					
What drinks did you try?		TICK HERE			
	TICK HERE				
		Less than 1 pint	About 1 or 2 pints	About 3 or 4 pints	Over 4 pints
(i) Shandy or cider					
(ii) Beer or lager					
(iii) Stout (Guinness, Mackeson etc.)					
		1 single	About 2 singles (or 1 double)	About 3 or 4 singles	Over 4 singles (or 2 doubles)
(iv) Whisky					
(v) Other spirits					
		1 glass	About 2 or 3 glasses	About 4 or 5 glasses	Over 5 glasses
(vi) Sherry, port, etc.					
(vii) Other wines					
(viii) Any other drinks					

17. A When was the last time you had a drink of alcohol when you were NOT in someone's home?

(tick one)

- (i) within the last week
- (ii) within the last month
- (iii) within the last 3 months
- (iv) over 3 months ago
- (v) never

IF YOU HAVE NEVER HAD A DRINK in the (open air, pubs, hotels or at a dance etc.) go straight to question 18.

IF YOU HAVE HAD A DRINK OF ALCOHOL WHEN YOU WERE NOT IN SOMEONE'S HOME (open air, pub, hotel, dance etc.) think of THE LAST TIME you had SUCH A DRINK and answer the following questions (B-E) about it.

B The last time you had a drink, apart from in someone's home, where
were you?

(tick ONE only)

- (i) At a dance
- (ii) In a hotel or a pub
- (iii) In the open air somewhere
(such as a street, or a
park).....
- (iv) Somewhere else

C Was the occasion a special one (such as a birthday, New Year, or a
celebration) or was it no special occasion?

(tick one)

- (i) special occasion
- (ii) no special occasion

D Below you will find a list of people. Put ticks in the first column
to show who was there. Then put ticks in the second column to show
who you got your drinks from.

Who did you get your drinks from?		
Who was there?	TICK HERE	TICK HERE
(i) Parents		
(ii) Adults, <u>other than</u> parents		
(iii) An <u>older</u> brother		
(iv) An <u>older</u> sister		
(v) Brothers or sisters of <u>your own age, or younger</u> ..		
(vi) <u>Older</u> boys or girls (apart from brothers or sisters)		
(vii) Boys or girls of <u>your own age or younger</u> , (apart from brothers or sisters)		

E Did you yourself buy any drinks from a bar or off-licence on that
occasion.

(tick one)

- (i) Yes
- (ii) No

- 2 Below you will find a list of drinks. Put ticks in the first column to show what drinks you tried. Then put ticks in the second column to show how much you drank.

(Remember this is about the last time you had a drink when you were NOT IN SOMEONE'S HOME).

How much did you drink on that occasion?					
What drinks did you try?		TICK HERE			
	TRIED	Less than 1 pint	About 1 or 2 pints	About 3 or 4 pints	Over 4 pints
(i) Shandy or cider					
(ii) Beer or lager					
(iii) Stout (Guinness Mackeson etc.)					
		1 single	About 2 singles (or 1 double)	About 3 or 4 singles	Over 4 singles (or 2 doubles)
(iv) Whisky					
(v) Other spirits					
		1 glass	About 2 or 3 glasses	About 4 or 5 glasses	Over 5 glasses
(vi) Sherry, port, etc.					
(vii) Other wines					
(viii) Any other drinks					

TO BE ANSWERED BY EVERYONE

18. Below is given a list of drinks. Go down the first column and tick all the drinks you have ever tasted. Then go down the second column and tick all the drinks that you especially like.

	I have tasted this drink	I like this drink
(i) shandy or cider		
(ii) lager		
(iii) beer		
(iv) Guinness or Mackeson		
(v) whisky		
(vi) rum or brandy		
(vii) gin or vodka		
(viii) cherry or port		
(ix) Martini or Cinzano		
(x) red or white table wine		
(xi) advocaat		
(xii) Babydam, or similar "fizzy" drinks		
(xiii) liqueur (such as cherry brandy, Drambuie, Tia Maria, or Glayva etc.)		

19. Fill in the following table to show how many times you have been "merry", "a little bit drunk", or "very drunk", in the last six months.

	Never	Once or twice	3 to 5 times	Over 5 times
(i) just "merry" or "happy"				
(ii) a little bit "drunk"				
(iii) very "drunk"				

20. Below is given a list of ways people sometimes feel after they have been drinking. Read through the list, and put a tick to show how often you have felt like that when you have been drinking. Tick every item.

	Often	Sometimes	Rarely	Never
(i) happy				
(ii) sad				
(iii) "bigger", more self-confident				
(iv) sick				
(v) feel like smashing things				
(vi) feel warm				
(vii) feel like a fight or an argument				

21. Below is given a list of reasons why people drink. Put a tick by each item to show whether that reason is TRUE or FALSE for you.

	TRUE	FALSE
(i) I like the taste		
(ii) so as not to be the "odd one out" in a group		
(iii) to calm my nerves and help me relax		
(iv) to give myself courage and confidence		
(v) it helps me to talk to members of the opposite sex more easily		
(vi) so that my friends won't think I'm scared or "yellow"		
(vii) to help me mix more easily with other people		
(viii) to help me stop worrying about something		

NOW GO TO QUESTION 27
(next blue page)

(Questions 22 to 26 are to be answered only by
people who have never tasted an alcoholic drink.)

Only answer Questions 22 to 26 if you have never tasted an alcoholic drink.

(If you now remember you have ever had a drink of alcohol at sometime go back to question 12 -pink pages).

22. About how many of your friends drink alcohol?
(tick one)

- (i) none of them xxxx
(ii) about a quarter of them xxxx
(iii) about half of them xxxx
(iv) almost all of them xxxx

23. If someone offers you a drink, do you often feel embarrassed when you refuse it?

(tick one)

- (i) Yes xxxx
(ii) No xxxx

24. Read through the questions below, and then put a tick by each one to show how often these things happen to you.

	OFTEN	SOMETIMES	RARELY	NEVER
(i) If someone offers you a drink how often do you feel tempted to try it?				
(ii) When you are at a party where people are drinking, do you ever feel "left out" of things?				
(iii) When you go out with friends of your own age, about how often are you offered a drink?				
(iv) Do your friends ever urge you to try "just a little one", or try to persuade you to have a drink?				

25. Below is given a list of reasons why some people do NOT drink.
Read through the list, and tick each item to show whether that reason
is TRUE or FALSE for you.

	TRUE	FALSE
(i) don't like the taste		
(ii) drinking is unhealthy and makes you ill		
(iii) drinking costs too much		
(iv) people who drink are wicked		
(v) drinking is against my religion		
(vi) drinking makes people lose control of themselves		
(vii) drink is evil		
(viii) once you start drinking, you can't stop the habit		
(ix) my parents disapprove strongly of anyone who drinks		
(x) some other reason (write what)		
.....		
.....		
.....		

26. Do you think you may start drinking when you get older?
(tick one)

- (i) Yes xxxx
(ii) No xxxx

The remaining questions in this section are to be
answered by EVERYONE

Remaining questions to be answered by EVERYONE

27. What do your parents think of young people under 18 years old who drink?

(tick one)

- (i) very strongly against it
- (ii) very strongly in favour of it
- (iii) tend to be against it
- (iv) tend to be in favour of it
- (v) don't seem to mind either way

28. Have you ever been in disagreement with your parents, because of drink?

(tick one)

- (i) Yes
- (ii) No

29. A Do you have any OLDER brothers or sisters who drink?

(tick one)

- (i) Yes
- (ii) No
- (iii) I have NO older brothers or sisters

B Do you have any brothers or sisters of your own age, or younger, who drink?

(tick one)

- (i) Yes
- (ii) No
- (iii) I have NO brothers or sisters of
my own age, or younger

30. About how often would you say you had an alcoholic drink?

(tick one)

- (i) more than twice a week
- (ii) about twice a week
- (iii) about once a week
- (iv) about once a fortnight
- (v) about once a month
- (vi) about once every 3 months
- (vii) less than once every 3 months

31. Comparing yourself with others of your own age and sex, about how much would you say you drank?

(tick one)

- (i) more than most of them
- (ii) less than most of them
- (iii) about the same as most of them

Questionnaire 4

People have many different idea about alcohol and drinking. On the next page is a list of idea. We want to know whether you agree or disagree with each one.

Sometimes you will agree strongly
and sometimes disagree strongly

At other times you may just agree or disagree

You may be uncertain. The boxes for answers provide for this.

Agree Strongly	Agree	Un- certain	Dis- agree	Disagree strongly
-------------------	-------	----------------	---------------	----------------------

Read each item and then put a tick to show how strongly you agree or disagree with each one.

There are no "right or "wrong" answers.

	Agree Strongly	Agree	Un- certain	Dis- agree	Disagree strongly
1. If you don't go in pubs you are missing a lot of fun.....					
2. Boys and girls who drink know how to look after themselves.....					
3. Drinking makes you feel on top of the world.....					
4. Drinking can help people when they feel nervous or embarrassed.....					
5. Girls who drink get more dates than girls who do not drink.....					
6. It worries me that so many grown-ups cannot stop drinking.....					
7. Drinking alcohol is not dangerous for teenagers.....					
8. Even if you <u>do</u> drink, it's best to try and stay out of pubs.....					
9. The age limit for drinking in public houses should be lowered from 18 to 16 years.....					
10. Drinking makes you feel more at ease.....					
11. Young people who drink are more attractive than those who don't.....					
12. People who drink cause trouble and get into fights fairly often.....					
13. It's only natural and right for a man to like his beer.....					
14. Adults only try to stop you drinking because they don't like to see you enjoying yourself.....					
15. There is nothing wrong with drinking.....					
16. It's the boys who drink who get all the girls.....					
17. People who drink are usually more friendly than people who don't.....					
18. Boys who are caught drinking at school should be punished severely...					
19. It's mainly the reckless boys and girls who start drinking regularly while they are still at school.....					
20. There's something mature and manly about boys who drink.....					

Questionnaire 5

Young people have different ideas on many different subjects. On the next page is given a list of ideas young people sometimes hold. We want you to say how strongly you agree or disagree with each statement.

Sometimes you will agree strongly
and sometimes disagree strongly

At other times you may just agree or disagree

At other times you may be uncertain. The boxes for answers provide for this.

Agree strongly	Agree	Un- certain	Dis- agree	Disagree strongly
-------------------	-------	----------------	---------------	----------------------

Read each statement and then put a tick by each one to show how you feel about it.

There are no "right" or "wrong" answers.

	Agree Strongly	Agree	Un- certain	Dis- agree	Disagree strongly
1. The older generation doesn't understand teenagers.....					
2. People with lots of money have the best of everything.....					
3. Parents are not strict enough these days.....					
4. It is sometimes funny when a person gets injured.....					
5. The older generation judges teenagers by their hair and clothes instead of more important things.....					
6. The age limit of 18 years for going in pubs should be increased to 21.....					
7. The most important thing in the present day is to have lots of money.....					
8. Despite all the advances of science religion is the only thing that can explain the more important aspects of life.....					
9. Nearly all schoolteachers enjoy making you look small.....					
10. There's one law for the rich and another for the poor.....					
11. It is funny when people get angry or annoyed.....					
12. Nowadays, science often shows religion to be untrue.....					
13. Too many parents spoil their children.....					
14. People with big houses and expensive cars have no right to own them while there is so much poverty about.....					
15. Universities are full of long-haired layabouts who just don't want to work for a living.....					

Below, you will find another series of statements. Read each one carefully, and then put a tick to show whether it is TRUE or FALSE FOR YOU

	TRUE	FALSE
1. I wish I was older.....		
2. I believe in God.....		
3. My parents hardly ever give me advice about anything.....		
4. I become embarrassed when I talk to members of the opposite sex.....		
5. When I was young, my parents never gave me a good hiding, even when I did things wrong.....		
6. I have been in trouble with the police.....		
7. I seem to suffer from aches and pains more often than other people.....		
8. I often get into a row with my mother.....		
9. I often feel nervous and tense.....		
10. In our house, my mother makes most of the important decisions.....		
11. I often think that people don't like me.....		
12. When I want to do certain things, my parents often tell me I'm not old enough.....		
13. I suffer from asthma.....		
14. I have been on probation.....		
15. I often feel worried or depressed without any real reason.....		
16. My parents are not strict enough with me.....		
17. I seem to be absent from school or college more often than most, due to sickness.....		
18. My father does not take much part in running the house.....		
19. I seem to catch coughs and colds more easily than other people.....		
20. I find people of my own age very childish and immature.....		

Questionnaire 6(a)

You have already told us something about yourself. Now we would like you to tell us what you think of other teenagers. Think first about TEENAGERS WHO DRINK HEAVILY.

Here is a PRACTICE QUESTION about teenagers who drink heavily.

Talk a lot ☐ ☐ ? ☐ ☐ Do not talk much

If you think teenagers who drink heavily talk a lot, put a tick in the box at the far left, like this:

Talk a lot ☒ ☐ ? ☐ ☐ Do not talk much

If you think teenagers who drink heavily do not talk much, put a tick in the box at the far right, like this:

Talk a lot ☐ ☐ ? ☐ ☒ Do not talk much

Most people know which of these two kinds of thing to choose; but if you cannot decide, put a tick in one of the centre boxes. Use the left centre box if you think teenagers who drink heavily tend to talk a lot, like this:

Talk a lot ☐ ☒ ? ☐ ☐ Do not talk much

If you think teenagers who drink heavily tend not to talk much, use the right centre box, like this:

Talk a lot ☐ ☐ ? ☒ ☐ Do not talk much

If you really cannot decide which to choose, put a circle round the question mark, like this:

Talk a lot ☐ ☐ ☐ ☐ ☐ Do not talk much

The question above was just a PRACTICE QUESTION. Now tick each of the questions on the next page, using the box which, is right for THE TEENAGER WHO DRINKS HEAVILY.

THE TEENAGER WHO DRINKS HEAVILY

1. Happy	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Sad
2. Rough	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Gentle
3. Have a lot of friends	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Have a few friends
4. Usually successful	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Usually unsuccessful
5. Interested in the opposite sex	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Not interested in the opposite sex
6. Relaxed	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Tense
7. Hard	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Not so hard
8. Good at schoolwork	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Not so good at schoolwork
9. Like to do forbidden things	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Do not like to do forbidden things
10. Attractive	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Not so attractive
11. Easy going	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Take life rather seriously
12. Smart and tidy	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Not very smart and tidy
13. Sharp.	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Dull
14. Act on the spur of the moment	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Stop to think before acting
15. Able to attract members of the opposite sex	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Do not attract members of the opposite sex

Questionnaire 6(b)

NOW STOP, AND READ THE INSTRUCTIONS BELOW
CAREFULLY

In the last part, you told us about
the kind of teenager who drinks heavily.

Will you now think about
THE KIND OF TEENAGER WHO DOES NOT DRINK.

The questions are the same, but this time
we want to know about the teenager who
does not drink.

Think about each item carefully, and then tick
each of the questions on the next page, using
the box which is right for the kind of teenager
who does not drink.

THE TEENAGER WHO DOES NOT DRINK

1. Happy	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Sad
2. Rough	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Gentle
3. Have a lot of friends	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Have a few friends
4. Usually successful	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Usually unsuccessful
5. Interested in the opposite sex	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Not interested in the opposite sex
6. Relaxed	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Tense
7. Hard	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Not so hard
8. Good at schoolwork	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Not so good at schoolwork
9. Like to do forbidden things	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Do not like to do forbidden things
10. Attractive	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Not so attractive
11. Easy going	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Take life rather seriously
12. Smart and tidy	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Not very smart and tidy
13. Sharp	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Dull
14. Act on the spur of the moment	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Stop to think before acting
15. Able to attract members of the opposite sex	<input type="checkbox"/>	<input type="checkbox"/>	?	<input type="checkbox"/>	<input type="checkbox"/>	Do not attract members of the opposite sex

Raw Scores Obtained from Demographic and Behavioural Questionnaires
(Questionnaires 1 and 3)

Questionnaire 1								Male	Female
1.	(i)	..	..	..	..	..	..
	(ii)	..	..	..	..	..	..	123	147
	(iii)	..	..	..	..	..	..	228	222
	(iv)	..	..	..	..	..	..	233	128
	(v)	..	..	..	..	..	..	217	23
	(vi)	..	..	..	..	..	..
	(vii)	..	..	..	..	..	..
2.	(i)	..	..	..	..	..	..	801	
	(ii)	..	..	..	..	..	..		520
3.	(i)	..	..	..	..	..	..	72	37
	(ii)	..	..	..	..	..	..	446	268
	(iii)	..	..	..	..	..	..	198	139
	(iv)	..	..	..	..	..	..	85	76
4.	(i)	..	..	..	..	..	..	83	26
	(ii)	..	..	..	..	..	..	240	115
	(iii)	..	..	..	..	..	..	409	353
	(iv)	..	..	..	..	..	..	54	21
	(v)	..	..	..	..	..	..	15	5
5.	(i)	..	..	..	..	Frequently		213	164
						Rarely		567	347
						Never		21	9
	(ii)	..	..	..	..	Frequently		351	153
						Rarely		242	155
						Never		208	212
	(iii)	..	..	..	..	Frequently		136	131
						Rarely		491	327
						Never		174	62
	(iv)	..	..	..	..	Frequently		329	212
						Rarely		358	246
						Never		114	62
	(v)	..	..	..	..	Frequently		248	189
						Rarely		159	54
						Never		394	277
	(vi)	..	..	..	..	Frequently		100	4
						Rarely		190	51
						Never		511	465
	(vii)	..	..	..	..	Frequently		151	29
						Rarely		298	153
						Never		352	338
	(viii)	..	..	..	..	Frequently		340	205
						Rarely		180	133
						Never		281	182

									Male	Female
	(ix)	..	..	..	..	..	Frequently	251	170	
							Rarely	444	316	
							Never	106	34	
	(x)	..	..	..	..	..	Frequently	273	277	
							Rarely	342	201	
							Never	186	42	
6.	(i)	..	..	..	..	..	Frequently	431	303	
							Rarely	218	152	
							Never	152	65	
	(ii)	..	..	..	..	..	Frequently	173	95	
							Rarely	287	159	
							Never	341	266	
	(iii)	..	..	..	..	..	Frequently	396	310	
							Rarely	331	189	
							Never	74	21	
	(iv)	..	..	..	..	..	Frequently	72	36	
							Rarely	151	98	
							Never	578	386	
	(v)	..	..	..	..	..	Frequently	51	45	
							Rarely	157	176	
							Never	593	299	
	(vi)	..	..	..	..	..	Frequently	100	3	
							Rarely	205	18	
							Never	496	499	
	(vii)	..	..	..	..	..	Frequently	5	139	
							Rarely	34	288	
							Never	762	93	
	(viii)	..	..	..	..	..	Frequently	53	5	
							Rarely	179	14	
							Never	569	501	
	(ix)	..	..	..	..	..	Frequently	238	96	
							Rarely	125	69	
							Never	438	355	
7.	(i)	..	..	..	..	..	..	51	5	
	(ii)	..	..	..	..	..	..	182	197	
	(iii)	..	..	..	..	..	..	145	98	
	(iv)	..	..	..	..	..	..	265	2	
	(v)	..	..	..	..	..	..	2	97	
	(vi)	..	..	..	..	..	..	156	121	
8.	(i)	..	..	..	..	..	..	8	5	
	(ii)	..	..	..	..	..	..	70	54	
	(iii)	..	..	..	..	..	..	236	200	
	(iv)	..	..	..	..	..	..	221	197	
	(v)	..	..	..	..	..	..	191	61	
	(vi)	..	..	..	..	..	..	75	3	

									<i>Male</i>	<i>Female</i>
9.	(i)	..	..	..	..	..	Most	22	39	
							Half	74	74	
							A little	344	227	
							None	361	180	
	(ii)	..	..	..	..	..	Most	47	17	
							Half	121	39	
							A little	230	76	
							None	403	388	
	(iii)	..	..	..	..	..	Most	108	72	
							Half	203	112	
							A little	334	239	
							None	156	97	
	(iv)	..	..	..	..	..	Most	134	106	
							Half	196	152	
							A little	384	219	
							None	87	43	
10.	..	..	..	..	..	..	..	1	51	19
								2	172	83
								3	412	313
								4	128	75
								5	38	30
12.	(i)	..	..	..	..	..	..	457	325	
	(ii)	..	..	..	..	..	..	344	195	
13.	(i)	..	..	..	..	..	..	164	171	
	(ii)	..	..	..	..	..	..	229	155	
	(iii)	..	..	..	..	..	..	120	61	
	(iv)	..	..	..	..	..	..	288	133	
14.	(i)	..	..	..	..	..	..	39	38	
	(ii)	..	..	..	..	..	..	278	265	
	(iii)	..	..	..	..	..	..	324	166	
	(iv)	..	..	..	..	..	..	121	42	
	(v)	..	..	..	..	..	..	39	9	
15.	(i)	..	..	..	..	..	..	51	65	
	(ii)	..	..	..	..	..	..	262	223	
	(iii)	..	..	..	..	..	..	57	42	
	(iv)	..	..	..	..	..	..	111	66	
	(v)	..	..	..	..	..	..	153	90	
	(vi)	..	..	..	..	..	..	167	34	
16.	A. (i)	..	..	..	..	..	..	503	365	
	(ii)	..	..	..	..	..	..	298	155	

								<i>Male</i>	<i>Female</i>
16.	B.	(i)	..	..	..	..	..	7	14
		(ii)	..	..	..	..	..	254	172
		(iii)	..	..	..	..	..	11	5
		(iv)	..	..	..	..	..	20	3
		(v)	..	..	..	..	..	10	9
		(vi)	..	..	..	..	..	176	143
		(vii)	..	..	..	..	..	25	19
17.		(i)	..	..	..	..	..	25	6
		(ii)	..	..	..	..	..	302	177
		(iii)	..	..	..	..	..	247	161
		(iv)	..	..	..	..	..	104	54
		(v)	..	..	..	..	..	123	122
18.		(i)	..	..	..	..	..	57	36
		(ii)	..	..	..	..	..	395	202
		(iii)	..	..	..	..	..	244	166
		(iv)	..	..	..	..	..	3	2
		(v)	..	..	..	..	..	102	114

Questionnaire 3

								<i>Male</i>	<i>Female</i>
1.		(i)	..	..	..	..	..	214	122
		(ii)	..	..	..	..	..	182	92
		(iii)	..	..	..	..	..	211	120
		(iv)	..	..	..	..	..	194	186
2.		(i)	..	..	..	..	..	613	381
		(ii)	..	..	..	..	..	188	139
3.		(i)	..	..	..	..	..	160	130
		(ii)	..	..	..	..	..	453	251
4.		(i)	..	..	..	..	..	368	248
		(ii)	..	..	..	..	..	29	18
		(iii)	..	..	..	..	..	16	17
		(iv)	..	..	..	..	..	21	29
		(v)	..	..	..	..	..	33	41
		(vi)	..	..	..	..	..	42	17
		(vii)	..	..	..	..	..	104	11
5.	Not analysed								
6.		(i)	..	..	..	..	..	379	206
		(ii)	..	..	..	..	..	12	13
		(iii)	..	..	..	..	..	20	18
		(iv)	..	..	..	..	..	174	123
		(v)	..	..	..	..	..	6	3
		(vi)	..	..	..	..	..	22	18

									Male	Female
7.	A.	(i)	..	..	..	..	..	..	307	192
		(ii)	..	..	..	..	..	..	494	328
7.	B.	(i)	..	..	..	..	..	..	759	486
		(ii)	..	..	..	..	..	..	42	34
7.	C.	(i)	..	..	..	..	..	..	665	434
		(ii)	..	..	..	..	..	..	136	86
7.	D.	(i)	..	..	..	..	..	..	465	342
		(ii)	..	..	..	..	..	..	336	178
8.		(i)	..	..	..	..	..	True	254	217
								False	547	303
		(ii)	..	..	..	..	..	True	389	182
								False	412	338
		(iii)	..	..	..	..	..	True	467	275
								False	334	245
		(iv)	..	..	..	..	..	True	124	108
								False	677	412
		(v)	..	..	..	..	..	True	458	320
								False	343	200
		(vi)	..	..	..	..	..	True	711	457
								False	90	63
		(vii)	..	..	..	..	..	True	87	45
								False	714	475
		(viii)	..	..	..	..	..	True	535	377
								False	266	143
		(ix)	..	..	..	..	..	True	541	225
								False	260	295
		(x)	..	..	..	..	..	True	379	387
								False	422	133
9.	A.	(i)	..	..	..	..	..	..	138	81
		(ii)	..	..	..	..	..	..	663	439
9.	B.	(i)	..	..	..	..	..	Yes	48	32
								No	753	488
		(ii)	..	..	..	..	..	Yes	171	95
								No	630	425
		(iii)	..	..	..	..	..	Yes	112	110
								No	689	410
		(iv)	..	..	..	..	..	Yes	39	35
								No	762	485
10.		(i)	..	..	..	..	..	..	424	163
		(ii)	..	..	..	..	..	..	111	82
		(iii)	..	..	..	..	..	..	108	106
		(iv)	..	..	..	..	..	..	158	169

									Male	Female
11.	(i)	..	..	..	..	..	..	..	766	477
	(ii)	..	..	..	..	..	..	..	35	43
12.	(i)	..	..	..	..	..	..	..	54	18
	(ii)	..	..	..	..	..	..	..	31	7
	(iii)	..	..	..	..	..	..	..	84	24
	(iv)	..	..	..	..	..	..	..	193	77
	(v)	..	..	..	..	..	..	..	258	235
	(vi)	..	..	..	..	..	..	..	146	116
13.	(i)	..	..	..	..	..	..	..	363	189
	(ii)	..	..	..	..	..	..	..	38	25
	(iii)	..	..	..	..	..	..	..	14	12
	(iv)	..	..	..	..	..	..	..	3	3
	(v)	..	..	..	..	..	..	..	95	80
	(vi)	..	..	..	..	..	..	..	193	110
	(vii)	..	..	..	..	..	..	..	60	58
14.	(i)	..	..	..	..	..	..	Yes	659	341
								No	107	136
	(ii)	..	..	..	..	..	..	Yes	524	263
								No	242	214
	(iii)	..	..	..	..	..	..	Yes	408	114
								No	358	363
	(iv)	..	..	..	..	..	..	Yes	544	285
								No	222	192
	(v)	..	..	..	..	..	..	Yes	343	161
								No	423	316
	(vi)	..	..	..	..	..	..	Yes	351	64
								No	415	413
15.	A.	(i)	..	..	..	..	..	..	146	40
		(ii)	..	..	..	..	..	..	170	61
		(iii)	..	..	..	..	..	..	225	120
		(iv)	..	..	..	..	..	..	182	200
		(v)	..	..	..	..	..	..	43	56
15.	B.	(i)	..	..	..	..	..	..	452	345
		(ii)	..	..	..	..	..	..	271	76
15.	C.	(i)	..	..	..	..	Present		492	285
							Providing drinks		332	188
		(ii)	..	..	..	..	Present		466	252
							Providing drinks		289	155
		(iii)	..	..	..	..	Present		148	87
							Providing drinks		35	23
		(iv)	..	..	..	..	Present		149	112
							Providing drinks		63	40

									Male	Female
	(v)	..	..	..	..	Present			207	102
						Providing drinks			15	5
	(vi)	..	..	..	..	Present			281	176
						Providing drinks			127	81
	(vii)	..	..	..	..	Present			344	152
						Providing drinks			148	46
15.	D.	(i)	..	..	..	..	..	..	176	25
		(ii)	..	..	..	..	..	..	547	396
15.	E.	(i)	..	..	..	Less than 1 pint			203	235
						1 or 2 pints			130	67
						3 or 4 pints			33	8
						Over 4 pints			15	1
		(ii)	..	..	..	Less than 1 pint			187	157
						1 or 2 pints			216	53
						3 or 4 pints			90	7
						Over 4 pints			92	2
		(iii)	..	..	..	Less than 1 pint			99	52
						1 or 2 pints			56	5
						3 or 4 pints			14	0
						Over 4 pints			7	0
		(iv)	..	..	..	1 single			120	62
						2 singles			69	11
						3 or 4 singles			32	5
						Over 4 singles			18	0
		(v)	..	..	..	1 single			97	64
						2 singles			67	41
						3 or 4 singles			25	16
						Over 4 singles			18	3
		(vi)	..	..	..	1 glass			129	139
						2 or 3 glasses			77	27
						4 or 5 glasses			7	8
						Over 5 glasses			7	1
		(vii)	..	..	..	1 glass			77	63
						2 or 3 glasses			51	22
						4 or 5 glasses			9	3
						Over 5 glasses			11	3
		(viii)	..	..	..	1 glass			60	63
						2 or 3 glasses			57	33
						4 or 5 glasses			8	5
						Over 5 glasses			13	5
16.	A.	(i)	..	..	..	..	..	..	83	34
		(ii)	..	..	..	..	..	..	171	76
		(iii)	..	..	..	..	..	..	173	89
		(iv)	..	..	..	..	..	..	145	113
		(v)	..	..	..	..	..	..	194	165

									Male	Female
16.	B.	(i)	..	..	..	..	..	..	268	201
		(ii)	..	..	..	..	..	..	304	111
16.	C.	(i)	..	..	..	..	Present		88	43
							Providing drinks		46	18
		(ii)	..	..	..	..	Present		232	106
							Providing drinks		181	79
		(iii)	..	..	..	..	Present		41	31
							Providing drinks		19	16
		(iv)	..	..	..	..	Present		29	16
							Providing drinks		10	4
		(v)	..	..	..	..	Present		43	17
							Providing drinks		6	5
		(vi)	..	..	..	..	Present		275	193
							Providing drinks		181	141
		(vii)	..	..	..	..	Present		462	194
							Providing drinks		297	115
16.	D.	(i)	..	..	..	..	..	..	247	40
		(ii)	..	..	..	..	..	..	325	272
16.	E.	(i)	..	..	..	..	Less than 1 pint		86	118
							1 or 2 pints		104	65
							3 or 4 pints		24	8
							Over 4 pints		8	2
		(ii)	..	..	..	..	Less than 1 pint		70	88
							1 or 2 pints		199	68
							3 or 4 pints		117	12
							Over 4 pints		105	2
		(iii)	..	..	..	..	Less than 1 pint		40	24
							1 or 2 pints		45	4
							3 or 4 pints		8	0
							Over 4 pints		7	0
		(iv)	..	..	..	..	1 single		69	39
							2 singles		60	10
							3 or 4 singles		33	8
							Over 4 singles		23	1
		(v)	..	..	..	..	1 single		57	52
							2 singles		46	25
							3 or 4 singles		32	18
							Over 4 singles		22	6
		(vi)	..	..	..	..	1 glass		55	49
							2 or 3 glasses		26	16
							4 or 5 glasses		6	2
							Over 5 glasses		6	2
		(vii)	..	..	..	..	1 glass		32	20
							2 or 3 glasses		28	17
							4 or 5 glasses		15	2
							Over 5 glasses		13	3

								Male	Female
(viii)	..	..	..	..	1 glass			28	40
					2 or 3 glasses			25	23
					4 or 5 glasses			15	5
					Over 5 glasses			13	3
17. A.	(i)	..	..	..	..	..	..	194	42
	(ii)	..	..	..	..	..	..	127	48
	(iii)	..	..	..	..	..	..	93	46
	(iv)	..	..	..	..	..	..	165	111
	(v)	..	..	..	..	..	..	188	230
17. B.	(i)	..	..	..	..	..	..	108	106
	(ii)	..	..	..	..	..	..	261	70
	(iii)	..	..	..	..	..	..	119	32
	(iv)	..	..	..	..	..	..	90	39
17. C.	(i)	..	..	..	..	..	..	132	83
	(ii)	..	..	..	..	..	..	446	164
17. D.	(i)	..	..	..	..	Present		70	40
					..	Providing drinks		47	24
	(ii)	..	..	..	..	Present		209	86
					..	Providing drinks		155	61
	(iii)	..	..	..	..	Present		40	25
					..	Providing drinks		18	11
	(iv)	..	..	..	..	Present		25	14
					..	Providing drinks		8	4
	(v)	..	..	..	..	Present		36	15
					..	Providing drinks		4	4
	(vi)	..	..	..	..	Present		272	157
					..	Providing drinks		185	123
	(vii)	..	..	..	..	Present		418	135
					..	Providing drinks		243	76
17. E.	(i)	..	..	..	..	..	..	338	59
	(ii)	..	..	..	..	..	..	240	188
17. F.	(i)	..	..	..	..	Less than 1 pint		69	66
					..	1 or 2 pints		58	38
					..	3 or 4 pints		14	6
					..	Over 4 pints		7	0
	(ii)	..	..	..	..	Less than 1 pint		79	54
					..	1 or 2 pints		217	59
					..	3 or 4 pints		109	7
					..	Over 4 pints		72	1
	(iii)	..	..	..	..	Less than 1 pint		33	13
					..	1 or 2 pints		34	4
					..	3 or 4 pints		9	0
					..	Over 4 pints		3	1

						<i>Male</i>	<i>Female</i>
(iv)	..	..	..	..	1 single	43	20
					2 singles	29	9
					3 or 4 singles	11	0
					Over 4 singles	17	3
(v)	..	..	..	..	1 single	39	35
					2 singles	28	25
					3 or 4 singles	16	7
					Over 4 singles	13	5
(vi)	..	..	..	..	1 glass	25	18
					2 or 3 glasses	12	11
					4 or 5 glasses	0	1
					Over 5 glasses	1	0
(vii)	..	..	..	..	1 glass	28	20
					2 or 3 glasses	17	17
					4 or 5 glasses	8	6
					Over 5 glasses	16	4
(viii)	..	..	..	..	1 glass	14	27
					2 or 3 glasses	20	24
					4 or 5 glasses	8	5
					Over 5 glasses	1	1

18.	(i)	..	..	..	..	Tasted	740	459
						Like	563	364
	(ii)	..	..	..	..	Tasted	702	363
						Like	543	210
	(iii)	..	..	..	..	Tasted	701	344
						Like	479	103
	(iv)	..	..	..	..	Tasted	472	160
						Like	191	37
	(v)	..	..	..	..	Tasted	591	277
						Like	221	48
	(vi)	..	..	..	..	Tasted	337	136
						Like	119	61
	(vii)	..	..	..	..	Tasted	440	255
						Like	202	148
	(viii)	..	..	..	..	Tasted	513	287
						Like	194	115
	(ix)	..	..	..	..	Tasted	267	163
						Like	108	88
	(x)	..	..	..	..	Tasted	441	238
						Like	294	111
	(xi)	..	..	..	..	Tasted	422	312
						Like	206	200
	(xii)	..	..	..	..	Tasted	488	334
						Like	224	199
	(xiii)	..	..	..	..	Tasted	291	152
						Like	152	62

							<i>Male</i>	<i>Female</i>
19.	(i)	..	..	..	..	Never	246	196
						Once or twice	301	211
						3-5 times	106	39
						Over 5 times	113	31
	(ii)	..	..	..	..	Never	383	320
						Once or twice	215	109
						3-5 times	95	36
						Over 5 times	73	12
	(iii)	..	..	..	..	Never	536	421
						Once or twice	150	40
						3-5 times	49	12
						Over 5 times	31	4
20.	(i)	..	..	..	..	Often	368	151
						Sometimes	185	129
						Rarely	86	66
						Never	127	131
	(ii)	..	..	..	..	Often	23	13
						Sometimes	59	53
						Rarely	166	96
						Never	518	315
	(iii)	..	..	..	..	Often	115	47
						Sometimes	209	65
						Rarely	132	70
						Never	315	295
	(iv)	..	..	..	..	Often	41	28
						Sometimes	112	79
						Rarely	218	104
						Never	395	266
	(v)	..	..	..	..	Often	25	7
						Sometimes	66	16
						Rarely	81	32
						Never	593	422
	(vi)	..	..	..	..	Often	217	102
						Sometimes	264	193
						Rarely	114	70
						Never	171	162
	(vii)	..	..	..	..	Often	50	13
						Sometimes	74	24
						Rarely	138	43
						Never	504	397
21.	(i)	..	..	..	..	True	666	369
						False	100	108
	(ii)	..	..	..	..	True	244	157
						False	522	320
	(iii)	..	..	..	..	True	143	93
						False	623	384

								<i>Male</i>	<i>Female</i>
	(iv)	..	..	..	..	..	True	143	95
							False	623	382
	(v)	..	..	..	..	..	True	230	125
							False	536	352
	(vi)	..	..	..	..	..	True	114	81
							False	652	396
	(vii)	..	..	..	..	..	True	264	145
							False	501	332
	(viii)	..	..	..	..	..	True	143	116
							False	615	361
22.	(i)	..	..	..	..	..	..	17	28
	(ii)	..	..	..	..	..	..	11	9
	(iii)	..	..	..	..	..	..	3	3
	(iv)	..	..	..	..	..	..	4	3
23.	(i)	..	..	..	..	..	..	11	12
	(ii)	..	..	..	..	..	..	24	31
24.	(i)	..	..	..	..	..	Often	1	4
							Sometimes	6	2
							Rarely	7	10
							Never	21	27
	(ii)	..	..	..	..	..	Often	0	4
							Sometimes	11	11
							Rarely	4	7
							Never	20	21
	(iii)	..	..	..	..	..	Often	2	2
							Sometimes	7	8
							Rarely	7	13
							Never	19	20
	(iv)	..	..	..	..	..	Often	3	2
							Sometimes	7	9
							Rarely	7	7
							Never	18	25
25.	(i)	..	..	..	..	..	True	22	34
							False	13	9
	(ii)	..	..	..	..	..	True	24	29
							False	11	14
	(iii)	..	..	..	..	..	True	27	39
							False	8	4
	(iv)	..	..	..	..	..	True	2	6
							False	33	37
	(v)	..	..	..	..	..	True	4	13
							False	31	30
	(vi)	..	..	..	..	..	True	29	35
							False	6	8

									Male	Female
	(vii)	..	..	..	..	..	True	12	20
							False	23	23	
	(viii)	..	..	..	..	..	True	15	28
							False	20	15	
	(ix)	..	..	..	..	..	True	17	20
							False	18	23	
26.	(i)	..	..	..	..	..	..	11	13
	(ii)	..	..	..	..	..	..	24	30
27.	(i)	..	..	..	..	..	..	197	160
	(ii)	..	..	..	..	..	..	6	1
	(iii)	..	..	..	..	..	..	371	237
	(iv)	..	..	..	..	..	..	15	10
	(v)	..	..	..	..	..	..	177	69
28.	(i)	..	..	..	..	..	..	229	70
	(ii)	..	..	..	..	..	..	537	407
29.	A. (i)	..	..	..	..	..	..	359	228
	(ii)	..	..	..	..	..	..	106	88
	(iii)	..	..	..	..	..	..	301	161
29.	B. (i)	..	..	..	..	..	..	74	29
	(ii)	..	..	..	..	..	..	450	299
30.	(i)	..	..	..	..	..	..	48	4
	(ii)	..	..	..	..	..	..	77	13
	(iii)	..	..	..	..	..	..	120	40
	(iv)	..	..	..	..	..	..	123	44
	(v)	..	..	..	..	..	..	109	69
	(vi)	..	..	..	..	..	..	112	92
	(vii)	..	..	..	..	..	..	177	215
31.	(i)	..	..	..	..	..	..	48	13
	(ii)	..	..	..	..	..	..	396	304
	(iii)	..	..	..	..	..	..	322	160

Means and Standard deviations used in multivariate studies of attitudes and opinions

Questionnaires 4, 5 (agree/disagree), 5 (true/false).

Questionnaire 4

Item no.	Mean	Standard deviation
1.	3.827	1.035
2.	3.790	0.993
3.	3.256	1.122
4.	2.444	0.969
5.	3.843	1.059
6.	2.449	1.181
7.	3.546	1.155
8.	2.372	1.160
9.	3.566	1.388
10.	2.741	1.092
11.	4.298	0.840
12.	2.608	1.159
13.	2.682	1.195
14.	4.260	0.863
15.	2.919	1.195
16.	4.166	0.836
17.	3.595	1.091
18.	2.701	1.322
19.	2.918	1.287
20.	3.968	1.002

Range 1-5

Questionnaire 5 (agree/disagree)

Item no.	Mean	Standard deviation
1.	2.333	1.050
2.	3.566	1.139
3.	3.307	1.102
4.	3.465	1.263
5.	1.736	0.870
6.	3.651	1.237
7.	3.654	1.179
8.	3.199	1.230
9.	3.099	1.246
10.	2.953	1.294
11.	3.285	1.058
12.	2.820	1.221
13.	2.227	1.006
14.	3.396	1.253
15.	4.055	1.142

Range 1-5

Questionnaire 5 (true/false)

Item no.	Mean	Standard deviation
1.	1.677	0.464
2.	1.273	0.445
3.	1.773	0.417
4.	1.750	0.433
5.	1.833	0.372
6.	1.800	0.400
7.	1.864	0.342
8.	1.553	0.497
9.	1.622	0.485
10.	1.676	0.468
11.	1.607	0.489
12.	1.442	0.496
13.	1.969	0.171
14.	1.966	0.180
15.	1.599	0.490
16.	1.828	0.378
17.	1.935	0.244
18.	1.766	0.423
19.	1.828	0.376
20.	1.746	0.434

Range 1-2

Means and Standard deviations used in multivariate studies of interpersonal perception

Questionnaires 2(a), 2(b), 6(a), 6(b) combined.

Item no.	Mean	Standard deviation
1.	1.826	1.166
2.	3.250	1.416
3.	2.039	1.362
4.	2.145	1.382
5.	1.572	0.965
6.	2.246	1.430
7.	3.393	1.472
8.	2.290	1.463
9.	3.100	1.573
10.	2.380	1.344
11.	2.257	1.435
12.	2.257	1.460
13.	2.149	1.322
14.	3.077	1.637
15.	2.102	1.250

Range 1-5

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